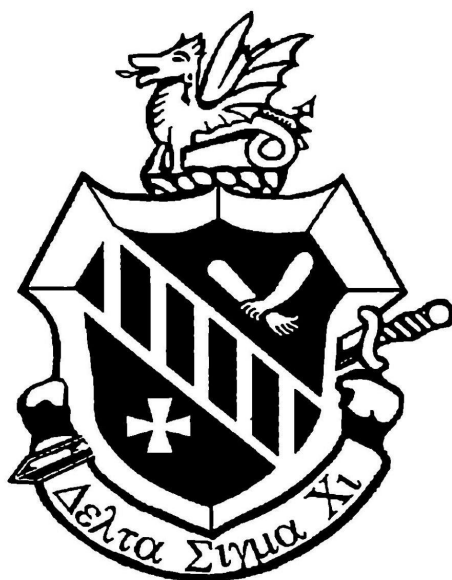


**THE ART
OF
CHIROPRACTIC
BY
R. W. STEPHENSON**

(Revised Edition)



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Palmer School

THE ART *of* CHIROPRACTIC

By R. W. STEPHENSON



REVISED EDITION

By
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and Other Members of P. S. C. Faculty-Technic Department

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Preface



Although the principle is the same, the art and practice of Chiropractic has changed profoundly since Dr. R. W. Stephenson published the *Art of Chiropractic* in 1927. The reader may detect outmoded phrases and viewpoints in the Preface, Foreword and Introduction. However these portions were retained in this book so that they may stand as a testimonial to Dr. Stephenson's excellent works.

In order to bring this book up to modern standards and conceptions a great deal of the original material has been eliminated and at the same time it was necessary to brief the modern technic of Specific Chiropractic so that the entire volume could be employed by the student as a Chiropractic Technic Notebook. It is not the intention of this revision to explain each step in detail but to act as a guide or outline which will be supplemented by a full explanation in the classroom.

At the time of this writing technic is undergoing many improvements. Change has disadvantages; the student complains that he learns one thing and then must relearn something else, but that after all, is the process of growth and understanding. What satisfied us as specific Chiropractic yesterday does not satisfy us today. We are then, in the state of progress. Out of the research laboratories of The B. J. Palmer Chiropractic Clinic the great bulk of new information has come which is increasing the degree of Specific Chiropractic by the year. The closer Chiropractic comes to knowing the whole truth, the greater the service we can render to the sick—and that is our reason for existence.

The task of revising "*The Art of Chiropractic*" was not an easy one but it was deeply interesting. One looked back over the years, like a climber high on a mountain side surveying the valley below him, tracing the direction of his travel. The past contains many mistakes but much good. We hope to retain the good and make the future of Chiropractic even greater.

Finally, this book is a compilation of many chiropractor's efforts. Upon the foundation laid by Dr. Stephenson, the present structure is built. Acknowledgment and gratitude for assistance is made to the entire Technic Department of the Palmer School. Dr. William B. Grant wrote the entire section on Developing the Recoil Adjustment. Dr. Marvin Honeycutt revised the section on Nerve Tracing and Dr. Lamont Gosser revised the section on Palpation.

Dr. Stephenson, whose Innate Intelligence is no longer bound by mundane planes, would have approved the dedication of this present book. "*To The Chiropractic Principle*".

W. HEATH QUIGLEY, D.C.

Original Foreword



ANY subjects are vital, each in its relation to all others. None can afford to be ignored. That being true, it is hard to say any one is more important than any other because each has a direct relative bearing, in value, upon each other; but, if it was possible to say that one is more important than any other, then the art of adjusting is relatively very important.

Idea by idea, step by step, the various mooted subjects are being analyzed and deduced into strictly scientific applications. One of those which has been more mooted than any other, subject to greater variation, is the art of adjusting, more because no one person had yet risen in our ranks who could put the scientific application of scientific principles into a scientific art. At last this man has appeared—the author of this work.

The author of the work herein has given this scientific application practical study for several years, gradually shaping his ideas, assembling his facts, systematizing his methods of explanation until this work is now, beyond all question, the most exacting work of description upon the art of adjusting of any work I have ever seen. I have only one regret, in seeing this work appearing over his name, and that is that I did not possess the ability to do what he has done; but, that it is done is cause for extreme joy in Chiropractic ranks.

I regard this work as the finest and best work that has ever appeared on vertebral adjusting, giving us essentials alone, every fact strictly proven, minus goat-feathers, confining itself to demonstrated mechanistic principles which any scientist can read, try and find to be true.

When our ranks can get a few more men like Dr. Stephenson who will devote themselves as laboriously as he has done, and will then place his genius and ability into print as accurately as he has done, Chiropractic will come into its own as another one of the exact arts which will stand the exacting scrutiny of time.

If I could desire one wish, it would be that every chiropractor secure a copy of this work, study it intimately, sincerely and conscientiously, apply its teachings and, if he would, Chiropractic results would become more manifest and take another step forward increasing its percentage of successes.

B. J. PALMER

Original Introduction



ADJUSTING is an art. It is the art of restoring a subluxated vertebra to its normal position, so that it no longer will be a cause of dis-ease. Hundreds of ways of adjusting have been devised since the discovery of Chiropractic.

Moves came into vogue and went out of style with considerable speed. At last one came that was destined to stay, and still is in use. This is the one taught in The Palmer School of Chiropractic and used in its clinics. This is not the only move used by chiropractors but it is considered the best by the Leader of Chiropractic. Dr. Palmer does not object to any move that is safe and that accomplishes the adjustment of a subluxation.

There are fundamental principles clearly stated by the Founder, but dust-covered and forgotten through neglect and careless instruction. It is the purpose of this book to take the practitioner or the student back to these principles and their origin, to examine and study them as the Founder intended. We find that these principles are sound and in no wise changed. The methods of study and approach may be changed but a fundamental principle does not change. We see manifested the deep wisdom of Dr. Palmer in basing his principles of Chiropractic upon the intelligence of nature, knowing that he could not go wrong in doing so.

Dr. Palmer has always claimed that we should tend toward simplicity in Chiropractic rather than toward complexity. This applies to Technic as well as to other things in Chiropractic. The simple Toggle Recoil used on the simplest contact is the ideal adjustment. Few of us however, are able to reach that ideal as closely as the Founder, so we are obliged to use complications, in an attempt to help out. These complications are called "improvements" but really are not. They are such as the Lamina Contact and other "improved" contacts. The use of them does not alter the Toggle Recoil. In this book we shall study the Toggle Recoil as used with a variety of contacts.

Definitions and Principles

CHIROPRACTIC

Chiropractic is the art, science and philosophy of things natural, a system of adjusting the spinal column by hand only to remove the cause of disease.

ART

"Systematic application of knowledge or skill in effecting a desired result. Also an occupation or business requiring such knowledge or skill." (Webster).

The technic of adjusting is art. The Palmer method of adjusting is the art of producing recoil or the Innate contraction of forces within the body of the patient. It is an art requiring the utmost skill and belongs among the highest arts of human achievements because man's noblest efforts are those to help his fellow man.

SCIENCE

Definition: Accumulated knowledge systematized and formulated with reference to discovery of truths or the operation of natural laws.

PHILOSOPHY

In Chiropractic we use the term "philosophy" to mean the body of principles which form the basis for the Chiropractic theory and practice. According to Webster Philosophy is the science which investigates the facts and principles of reality and of human nature and conduct.

THE NORMAL POSITION OF A VERTEBRA

A vertebra is in its normal position when it is in proper alignment; its articulations in proper apposition with those of the vertebra above or the one below or both; so that it does not interfere with the transmission of mental impulses.

The educated mind of a surgeon or of a chiropractor does not know what this position is. No intellect knows the correct normal position of a vertebra except the Innate Intelligence of that body. Therefore, for a chiropractor to push, place or knock a vertebra into a place determined by his educated mind, is not Chiropractic but a crude attempt at surgery.

ABNORMAL POSITIONS OF VERTEBRAE

A vertebra is in an abnormal position when it is out of proper alignment with the vertebra above or the one below or both; so that

its articulations are not in proper apposition. These are classified as three kinds, according to degree; namely, fractures, dislocations, and subluxations. Fractures and dislocations are not in the realm of Chiropractic. Subluxations are the physical representations of the cause of *dis-ease*. Innate's opinion is the criterion of abnormal positions, or of normal positions.

SUBLUXATIONS

A subluxation is the condition of a vertebra that has lost its proper juxtaposition with the one above or the one below or both; to an extent less than a luxation (dislocation); *which impinges nerves* and interferes with the transmission of mental impulses. All the factors of this definition must be given to make it complete and to make it Chiropractic, for unless it is the cause of *dis-ease* it is not a subluxation. Dislocations and fractures also can impinge nerves and interfere with the transmission of mental impulses but they are not for chiropractors to work with.

MOVES

A move is a mechanical movement given by an adjustor with the intention of adjusting a subluxation.

A move employs one, or a combination of any of the mechanical principles applied to the spinal column. These mechanical principles are: Rotation, Counter-rotation Extension and Flexion. The intention of rotation is to turn the spine so that the subluxated vertebra will be moved by the force of the rotated spine. In using counter-rotation, the adjustor intends to turn the spine against the immobilized, offending vertebra, thus producing a reacting force to move the subluxated vertebra into normal position. The intention of extension is to stretch the vertebral column so that the misaligned vertebra will fall back into normal juxtaposition. By flexion, the adjustor expects to bend the spinal column, thus by a great mechanical leverage, force a subluxated vertebra into its normal place.

Examples of moves are: Rotary, Rotary Break, TM (Thumb Move), Cervical Break, etc.

The Palmer method is strictly unique; no other method teaches that adjusting is restoration performed by Innate Intelligence.

See "Exposition of Old and New Moves"—B. J. Palmer.

INNATE INTELLIGENCE IS THE ADJUSTOR

Innate Intelligence always strives to replace a misplaced vertebra. If it is a subluxated vertebra, it is so because Innate's *replacing* forces are cut off from the region of the misplaced vertebra. This subluxation, which is interfering with the transmission of mental impulses to some organ, remains in that position because it also is interfering with the

transmission of impulses to its supporting tissue. Sometimes this is to such an extent as to make the vertebra, or the tissues holding it in situ, pathological.

Innate can replace a vertebra if the adjustor produces concussion in those tissues. This concussion is called the recoil. Recoils are brought about by concussions; concussions may be accidental or scientific—Dr. Palmer prefers the latter. Concussions may be the result of mechanical forces, or intangible physical forces, chemical forces or mental shocks. Both subluxations and adjustments are produced by recoil to concussions. Unbalanced resistance subluxates; balanced resistance adjusts. A spontaneous adjustment is one accomplished by Innate without the intervention of outside forces. Accidental adjustments are brought about by accidental recoils, which happen to be just right. The adjustor should try to produce recoils scientifically, so they will not “just happen,” but so he can bring that “phenomenon” about at will.

CHRONIC SUBLUXATIONS

A chronic subluxation is one of rather long standing; at least one that has definitely come to stay unless something is done about it. This is because of the interference with transmission to the tissues of and near the vertebra so that they have become abnormal. Even when an adjustment is given, this vertebra will not “stay hitched” because the hitching tissues are too abnormal to perform their function. Therefore time must be given to build up the tissues of the vertemere to the point where they will hold, before lasting adjustments can be given.

The abnormality of the vertemere may be to such an extent that the ligaments are stretched or hardened; the intervertebral disc distorted; prolapsed or contracted muscles, etc. It is obvious that Innate cannot use these for placement; besides that, they offer friction to a change of position, even back to normal. Therefore a large part of the adjustor's force is used in overcoming this friction. It is evident that the adjustor must use as much skill as possible (educationally) to make his drive as nearly in the right direction as possible, and with the right amount of force. Then part of the adjustor's forces is appropriated by Innate Intelligence and part is used to overcome the friction of cleavage.

CLEAVAGE

Cleavage is the movement of one body between two others—splitting action. The friction is greater with slow motion than with fast, which is of course according to the law of friction. The application of the principle of cleavage, in Chiropractic, is the movement of a vertebra between two other vertebrae. This, as we have seen in a previous article, may have considerable friction on account of pathology.

CONCUSSION

Concussion is a blow as the result of arrested momentum. Momentum is the result of weight (mass) in motion and velocity. In an adjustic concussion, it depends more upon speed than mass. At any rate it is necessary to get concussion, but without pounding. There should be a clean transfer through to the vertebra.

SPEED

Speed is the velocity of a moving body. The more speed a body has the more momentum it possesses. The more momentum it has, as the result of this speed, the more clean cut concussion it can produce. It is used in Chiropractic to obtain easy cleavage and to arouse Innate recoil.

RECOIL

Recoil is the term used for Innate contraction of forces, *in the body*, in response to the adjustic concussion. Mechanically, recoil is the product of elasticity. It is the bouncing or springing back of an object when it strikes another object. It is not possible without concussion.

FOLLOW THROUGH

Follow through is the term used to describe a completed thrust performed in such a manner that the toggle of the arms and action of the shoulders reach the extremity of their respective extension and movement. It is the same principle of the club head following through in a golf stroke, the tennis racket in a tennis stroke, or the completed movement of the arm through its arc in bowling.

THE TOGGLE

The toggle is a mechanical principle wherein two levers are hinged at an elbow giving mechanical advantage.

As the elbow straightens the advantage increases; the more the elbow is bent the less the advantage. As the elbow is straightened pressure is exerted at the free ends of the levers. If one of the free ends is made stationary, the other lever does all the longitudinal moving. This powerful principle is used in many kinds of machinery; as, brakes, iron shears, presses and the like. In machinery it generally is used with a slow motion but when used for adjusting it is used with the utmost speed.

Combinations of toggles may be made so as to multiply the mechanical advantage or otherwise strengthen it.

THE PALMER TOGGLE

The Palmer toggle is double, consisting of two toggles (or four levers) working simultaneously and combining their forces at one point—the "nail point."

The parts of the Palmer Toggle are: two shoulders, two arms, two elbows, two hands, hammer head, nail head, nail point and episternal notch. The toggle machine is assembled by arching both hands; placing hammer head on nail head, grasping the wrist, bending the elbows slightly. This forms a double toggle. The body and legs of the adjustor constitute the chassis for this concussion machine. The upper ends of the toggles being held stationary by the shoulders and body; the entire movement is the nail point downward and away from the shoulders.

HOW THE TOGGLE IS USED IN ADJUSTING

The toggle should be used with speed enough to produce a concussion; the utmost speed is not too much. Speed is necessary to make a concussion; concussion is necessary to lessen the friction of cleavage and absolutely necessary to make Innate recoil. In order to obtain concussion without raising the nail point from contact, the muscular slack of the relaxed arms is made use of. In using the toggles, made by the arms, the elbows are brought toward each other until they come straight, or practically so. It will be impossible, at any rate unnecessary to make the two elbows touch.

The means by which a student develops the toggle into the adjustic thrust is described in detail in "Developing the Recoil Adjustment, page 25.

THE PALMER TOGGLE RECOIL

This is the name of the adjustment developed by B. J. Palmer which makes use of the toggle principle with such speed that it brings about a recoil in the body of the patient, arousing the Innate Intelligence to make the adjustment. The toggle recoil is a distinct Chiropractic development.

POSTURES

A correct posture for both patient and adjustor is of great importance. The relative importance of the patient's posture and the adjustor's posture is 75 per cent and 25 per cent, respectively. The adjustor's postures are many and varied and are best described in Technic notes. The patient's postures are described next.

POSTURE OF THE PATIENT

The Old Posture is with the patient placed upon two benches with the dorsal and lumbar regions bridging over a gap between the two benches. The superior end of the rear bench comes across the thighs a few inches just below the hip joints. The inferior end of the front bench comes across the chest on a line between the axillae. This gives two fixed points for dorsal or lumbar adjustments with the body swinging

freely so that Innate will have room to recoil in. As the adjustor must have slack in the muscles of the arms to produce concussion with, so the patient must have both slack and space to recoil in. The face is turned to one side or the other according to laterality or rotation or the contact used. (See notes). The main point, however, is to have the two fixed points. Relaxation is necessary.

KNEE POSTURE

The knee posture was originally called the Palmer Posture because of its origin. Its purpose was to obtain maximum relaxation in the patient. At the time of its development, the cervical vertebrae like the other vertebrae were adjusted in the prone position. The knee posture table was developed so that the patient could flex the thighs obtaining greater relaxation and at the same time expose the back and neck for contact and adjusting.

To take the knee posture, the patient kneels upon a pad and bending forward, places the head and shoulders upon a bench exactly the same as in the old posture, then the thighs are perpendicular approximately, and serve to give the lower end of the spine a fixed support. This with the forward bench gives the spine necessary "bridge."

For adjusting in the cervical region the knees are brought well forward so that the thighs are not perpendicular. Do not allow the patient to sit on his heels. The weight of the body should be so well forward of the knees that the weight of the head and chest is thrown on the bench.

For upper dorsal, approximately the same placement of the knees is used, (as for cervical) but in the lower half of the dorsal region, the thighs should be perpendicular.

For lumbar region and sacrum, the knees should be placed well back with the thighs sloping back but not to the extent that there will be danger of slipping. The knees, especially for lumbar region adjusting, should be placed a little apart for balance. This prevents swaying from side to side. The exact position of the knees for a given vertebra will vary with different patients; but the correct placement of the knees can be ascertained by placing the palpating hand on the back at the location of the subluxated vertebra and then move the patient's knees forward or backward until the back muscles are relaxed at that place.

The Knee Posture is seldom used for sacrum and ilium because these structures are too close to the "fixed point" of the bridge.

The posture of the adjustor also is important. The main thing for the adjustor, is to get himself into such a position that he *feels* he can give the adjustment in the correct direction, according to his visualization and to feel able to give it with speed. He must be able to do this by the use of thinking and not be hampered by any conventional modes of standing. However for purposes of instruction and

as a basis for drills the conventional ways of standing are given in this book.

SIDE POSTURE

The side posture adjusting table was an invention of necessity. When it became increasingly evident that the Atlas was the major offender of the spinal column it became likewise obvious that the Innate Intelligence could not make efficient use of an adjusting force delivered against the contracted muscles of the cervical region caused by turning the patient's head to either side which is necessary in either the prone or knee posture. By placing the patient upon his side allowing the head to rest upon an adjustable head piece, the ultimate relaxation of the patient can be obtained, producing a "floating" neck. With a relaxed cervical region Innate Intelligence is afforded unhampered opportunity to create an adjustment out of the adjustor's thrust. Further the Atlas transverse process is much more accessible for accurate contact when the patient's head rests upon the side. In addition, the line of drive for side-slip, and rotation as well as execution of Torque is far easier with the patient in the side posture.

After the side posture had proven superior for Atlas Adjusting, the same position was used for Axis subluxation for the same reasons and with equal success. Although there are exceptions, the side posture is the ideal posture for adjusting Atlas and Axis subluxations.

The Toggle Parts

LINE OF DRIVE, AND THE PLANE OF DRIVE

The Plane of Drive is the plane in which should lie, the two shoulders, two elbows, episternal notch, hammer head, nail head, nail point and the point of contact.

The line of drive is a line from the episternal notch to the point of contact on the vertebra and its direction is determined by the direction the vertebra is to be driven. It should coincide with or lie in the plane of drive and in that plane the episternal notch, hammer head, nail head, and nail point should all be in the same line—which is the line of drive.

One should always take care to keep the elbows in the plane of drive, else the thrust will not be the line of drive but an entirely different one. A common error is to keep the elbows too close to one's sides and exaggerating laterality in adjusting; or in adjusting from the side opposite to fail to lean over far enough and then try to "hook" the vertebra toward himself. It is obvious that this is wrong in every detail.

THE SHOULDERS

The shoulder is the upper end of the upper toggle stick or lever. The line between the two shoulders is the cross-bar of the two toggles, connecting them into one mechanism. The shoulders should be in the plane of drive and become a part of the toggle.

THE ELBOWS

The elbows of the adjustor are the elbows of the toggles. They are the hinges. In giving an adjustment these elbows are brought toward each other so as to straighten each toggle—straighten each set of levers. It is not necessary to try to make these elbows touch—just bring each toggle straight.

HAMMER HAND

Hammer Hand is the name of the hand which grasps the wrist of the nail hand. The distal surface of the pisiform bone is placed on nail head. Its purpose is to impart the action of the hammer side of the toggle to the Nail. The hammer hand should never be raised from its seat, in giving the adjustment. Keeping it in its seat is difficult if the wrist is grasped incorrectly as well as making it difficult to extend the toggles as far as they should go. In placing Hammer Hand be sure to have Hammer Head correctly seated. Then the fingers may be placed about the wrist at right angles to the wrist. In this the thumb is flexed much less than the fingers. The thumb and middle finger tend to meet around the wrist.

A few experiments along this line will assist in your particular case. Grasp the wrist and extend the arms. If they bind or the Hammer Head lifts, continue holding the arms extended and shift the grasp so as to feel more comfortable, at the same time complying with the requirements. Some people have very long metacarpal bones and small wrists. For these people it is impossible to set the distal surface of the pisiform bone on nail head. For these people, it is best to put, what at other times, would be nail point two, on the nail head, and then there will be no difficulty in grasping the wrist correctly. Either hand may be Hammer Hand according to how the toggle is used.

HAMMER HEAD

Hammer Head is the distal surface of the pisiform bone of the Hammer Hand. It is the same as Nail Point One of the Nail Hand. Hammer Head is securely seated on Nail Head and kept there throughout the adjustment by securing the hand in place by grasping the wrist. With Nail Hand intact, place Hammer Hand on Nail Hand with palm up and Hammer Head in line with Nail Head of Nail Hand. Roll

Hammer Hand in drawing excess tissue down under Hammer Head and take a firm, square grip on wrist of Nail Arm. Then relax grip. If this is properly done, the Hammer Hand will stay in position and relax.

NAIL HEAD

Nail Head is a slight depression at the base of the thumb on the edge of the wrist. This Nail Head should be kept elevated above Nail Point so as to be in the line of drive. The way to do this is to use a proper arch with the thumb held up to aid in keeping Hammer Head on Nail Head.

NAIL POINT ONE

Nail Point One is the hand contact used on spinous processes, transverse processes, laminae, sacrum, ilium, etc. It is the distal surface of the pisiform bone.

The pisiform bone is an acorn-shaped bone in the proximal row of carpal bones. It articulates with the cuneiform bone so that its apex is toward the anterior or toward the palm. The distal surface then, is toward the fingers and is overshadowed by the spine of the unciform bone in the distal row of carpals. That is to say, the distal surface is not available as Nail Point as long as the hand is straight. In arching the hand, however, the unciform bone is swung backwards out of the way. The stretching of the tendons and ligaments of the flexed wrist securely anchors the pisiform bone so that it is well able to withstand the concussion of adjusting.

In contacting the Transverse of Atlas, with patient in position on table, palpate point of contact and draw tissue down with Chiropractic Index Finger creating a fossa over point of contact. Hold this Point in line with end of finger, roll over placing Nail Point on tip of finger directly over contact point. In the rolling process any loose tissue should be raised above Nail Hand. Anchor fingers tightly and easily draw out palpating finger letting Nail Point down into fossa. The tissue will close in around Nail Point and help to anchor it. Relax fingers and hand and the Nail Hand will stay intact.

NAIL POINT TWO

Nail Point Two is the lateral anterior aspect of the middle of the fifth metacarpal bone. It is used for adjusting cervicals on the spinous process and sometimes on other contacts. It is well padded with the muscle on the edge of the palm, much of which has to be rolled out of the way in placement. This is done by rolling the edge of the palm on the dorsal surface of the pointer finger and allowing the nail point to settle upon the point of contact at the end of the pointer finger. Care should be taken not to cover the spot of contact with the

pointer finger, else the proper placing of Nail Point Two cannot be done.

THE EPISTERNAL NOTCH

The Episternal Notch is the rear sight of the Palmer Toggle. It is used to line up the toggle in the line of drive and the line from it is the guide line in which to make the Nail Point travel. Anatomically, the episternal notch is the depression in the manubrium of the sternum just between the two ends of the clavicles. In taking any standing position or flexed posture of the body, in order to "get at" the subluxation, keep in mind the episternal notch and carry it to the correct position.

Listings and Contacts

Because the Atlas requires a totally different type of listing, these directions are discussed separately in the section entitled Atlas-Axis Listings and Adjusting Technics.

LISTING

Listing is the description of the direction in which a vertebra has moved from its normal position. The direction opposite, that is, the direction of movement necessary to restore the vertebra to normal, is the Line of Drive. Listings are represented by the initial letters of directions used in anatomy.

As a body stands with the arms at the sides and palms toward the front; toward the back is Posterior; toward the front is Anterior; toward the feet is Inferior; toward the head is Superior; toward the sides, right or left, is Lateral. These directions hold constant even if the position of the body or any of its parts is changed. Thus, the palms of the hands are anterior no matter in what position the hands are placed; and toward the head is superior even if the person is lying down.

It is obvious that descriptive words of direction could be given only in reference to the body and not relative to any thing outside of the body.

Some other terms of direction are: Proximal—toward the sagittal plane of the body; Distal—away from the sagittal plane of the body; Internal—facing the sagittal plane; External—facing away from it.

SPINOUS LISTINGS

Spinous listings refer to the position of the tip end of the spinous process. The initial letter of the directions used in anatomy point the location of the spinous process tip. For example, PRS means the spinous has moved to the Posterior, Right and to the Superior, relative

to the vertebra above, below or both. An analysis of Fig. 1 with accompanying charts indicates the directions a spinous process can be listed. Since the listing is three-dimensional, the direction of posterior must be imagined. On the chart, it is the direction from the page to the reader. The center point of the chart represents the normal position of a vertebra.

LATERALITY GROUP AND POSTERIOR GROUP LISTINGS

The two groups of listings, the Laterality and Posterior groups were chosen for convenience and facility in instruction. This simply means that all spinous process listings which have laterality are included among the Laterality group. A glance at the figure will make the idea clear. A spinous process found in any of these directions is classed as a Laterality listing: PR, PRS, PRI, PL, PLS, PLI. On the other hand, a listing without laterality of the spinous process belongs to the Posterior group of listings and will be one of the following: P, PS or PI. Remember, this class of listings refers to spinous process listings and not to rotation or tilt listings.

It is evident that the spinous process listings all have a posterior direction in common. This is due to the peculiar structure of the bony locks of the vertebrae which will not allow a vertebra to move toward the anterior, therefore in order to move at all the vertebra must first slip toward the posterior. This means that in order to have

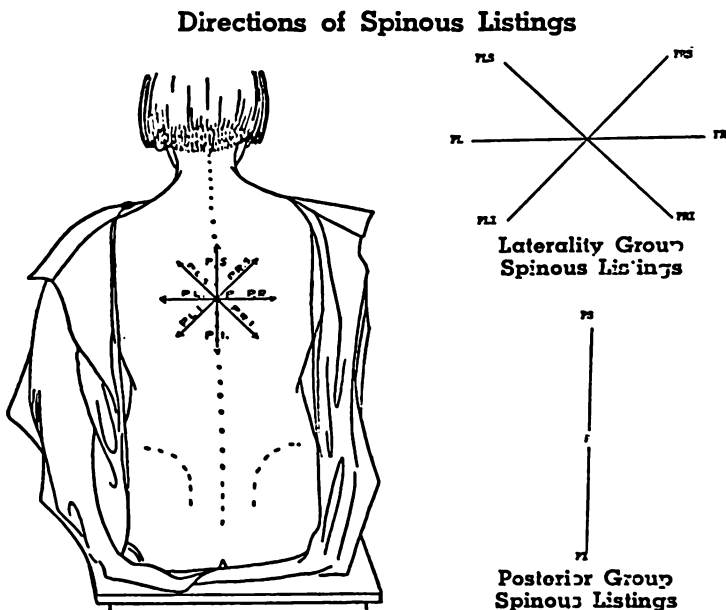


Figure 1

laterality, superiority, inferiority or tilt, there must be some degree of posteriority. That then, is the reason why in every case, the thrust is given toward the anterior.

THE SPINOUS PROCESS CONTACT

It is a small area on the end of the spinous process, chosen as suitable for placing the nail point according to the line of drive.

In the Cervical region the contact is a small area on one or both prongs according to the line of drive.

THE LINE OF DRIVE ON POSTERIOR SUBLUXATIONS

The line of drive is always opposite to the directions described by the listings. In the dorsal region this is mostly downward toward the floor which is anterior to the body of the prone patient. In adjusting cervicals, however, one must remember that the directions are changed when the patient turns his face to the right or left. That is, the direction that is anterior to the body is not anterior to the head and upper part of the neck but lateral. To "get posteriority" one must incline his line of drive more to the horizontal, thus driving more toward the anterior of the neck and not anterior to the body. Therefore one should visualize the vertebra and lean to right or left, as the case may be, to give sufficient slope to the line of drive to get the proper amount of "posteriority."

ROTATION MISALIGNMENT

This is a name adopted for convenience and used to indicate a class of misalignments in which the centrum of a vertebra has moved laterally, relative to the one above or the one below or both, being rotated, around a vertical axis somewhere posterior to centrum. Often, this is compounded with posteriority and other positions. If compounded with posteriority there may be laterality of the spinous process.

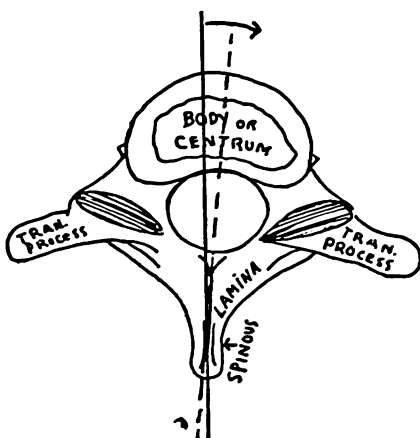


Figure 2

ROTATION MISALIGNMENT

The body of the vertebra has rotated to the right making the right transverse process posterior on the right.

The axis of rotation is commonly in the neighborhood of the zygapophyses but may be more to the posterior somewhere in the spinous process. If near the end of the spinous process there will be no laterality of the spinous process tip.

A vertebra cannot rotate very far—not much more than a quarter of

an inch—without taking its neighbors with it. It is quite common for them to do this, however, and three or more vertebrae will be in a Rotatory Scoliosis.

The best contact for a rotated vertebra is the Transverse Process Contact.

THE TRANSVERSE PROCESS CONTACT

It is a small area on the posterior lateral aspect of the transverse process on the side of rotation. That is to say, on the transverse process that is most posterior. It is used most effectively from second dorsal to tenth dorsal inclusive. It can be used on the first dorsal but not so effectively on account of the amount of muscle over it. It is not used on the eleventh and twelfth dorsals on account of the rudimentary character of their transverse processes; or in the lumbar region on account of the transverse processes there being too long and thin and buried beneath heavy muscle. Transverse contacts are harder to use than spinous process contacts and require more judgment on the part of the adjustor. Careful measurements must be made so as not to get on adjacent structures. This contact is below considerable tissue which tends to slow up the adjustic force and absorbs the concussion. If the student will give the matter a little thought he will see that it would be difficult if not impossible for a person to move an object (as the point of contact) to definite place through two inches of muscle, even if he knew where that place was. A simple experiment will serve to show. Mark a small circle on a board or table and place a bean near it. Then place over the bean a beefsteak an inch (or more) thick. Place Nail Point One over the bean as well as you can calculate and drive the bean accurately into its little circle, through the steak. It is quite obvious that some other agency is at work when one "gives" an adjustment. Do not forget that Innate Intelligence is on the job in the living body and knows where that vertebra belongs.

LISTING ROTATIONS

A rotated vertebra is listed by describing the position of its centrum relative to the one above or the one below or both; or by describing the position of the transverse process on the rotated side. (See Fig. 2)

There is no conventional listing adequate to describe the position of all rotations in all bodies—each one is a problem in itself. Therefore the adjustor must visualize and study each one to be adjusted.

LINE OF DRIVE FOR ROTATION

Ordinarily the drive is downward allowing for the slope of the back at that place; that is, the drive is to the anterior. Altering the line of drive more toward the sagittal plane will tend to move the centrum without moving the spinous process laterally. Driving away

from the sagital plane tends to move the spinous process more. A little thought will show that one could not place his hand on the back of the patient and drive downward (toward anterior) without driving the vertebra, with any kind of contact, toward the anterior. This could not be avoided, and therefore is utilized. How well it is utilized depends upon the thinking ability and visualizing ability of the adjuster. Inferiority or superiority may be given in the line of drive to tend to correct superiority or inferiority, respectively. It is the writer's opinion that not much surgical accuracy could be obtained in this way and if a superior or inferior movement is obtained, Innate will have to do it. One could not do much in "bumping" a transverse process to the inferior or superior through two or more inches of soft tissue.

MEASUREMENTS FOR TRANSVERSE CONTACTS

For middle dorsal region; 5rd to 8th dorsals, inclusive: From the second interspinous space above the spinous process in question, measure $1\frac{1}{8}$ inch.

For upper dorsal region; 1st to 3rd dorsal, inclusive: From the middle of the spinous process above the one in question, measure $1\frac{1}{4}$ inch.

For lower dorsal region, 8th to 10th dorsal, inclusive: From the interspinous space above the spinous process in question, measure 1 inch.

It must be remembered that these measurements are approximate and conservative. They apply to the average sized person. They are to be altered with judgment on every patient, depending upon the slope of the spinous process varying in different persons; in the varying sizes of people. It is obvious that the above measurements could not be used on children. The student should see to it that he can accurately gauge an inch; an inch and a quarter; an inch and one-eighth, etc. He should see to it that he has found the correct level of the transverse process superior to the spinous process. It is better to be conservative of your measurements laterally lest you get contact upon the rib instead of the vertebra.

The transverse process gives a long lever laterally and enables one to move a vertebra easily, and for that reason one should be accurate and careful; he should work to adjust the vertebra and not seek merely a pleasing "pop." The popping or cracking sound given by the synovial membranes means nothing; it is no measurement of adjutic worth. Driving a rib to the anterior gives the most pleasing pop of all but that does not adjust the vertebra. The student should not allow his esthetic pleasure in these sounds to lead him from the path of duty.

THE LAMINA CONTACT

It is a small area on the posterior surface of the lamina of the misaligned vertebra midway between the spinous process contact and the transverse process contact, in dorsals and on corresponding positions on other vertebrae. It is used in cervicals, dorsals, and lumbar. It can be used for simple rotations but is best for tilted vertebrae or for tilts combined with rotations.

Like the transverse contact, the lamina contact is beneath much muscle. The same remarks used in explanation of this in transverse contacts will also apply to lamina contacts.

MEASUREMENT FOR LAMINA CONTACTS

For middle dorsal region; 3rd to 8th dorsal inclusive: From the second interspinous space above the spinous process in question, measure $1\frac{1}{8}$ inch. Bisect the distance between this point and the tip of the spinous process. The bisecting point is the spot of contact.

Or one may use the measurements given in NCM Manual.

For upper dorsal region; 1st to 3rd dorsal, inclusive: From the middle of the spinous process above the one in question, measure $1\frac{1}{4}$ inch. Bisect the distance between the point found and the tip of the spinous process. The bisecting point is the point of contact.

For lower dorsal region; 8th to 10th dorsal inclusive: From the interspinous space above the spinous process of the vertebra in question, measure 1 inch. Bisect the distance between the point found and the tip of the spinous process. The bisecting point is the point of contact.

For 11th and 12th dorsal: From the interspinous space above the spinous process in question, measure on the side to be adjusted a distance far enough to have the nail point clear of the spinous processes and yet as near them as possible.

For the Lumbar Region: From the spinous process in question measure a distance to the side to be adjusted, a distance sufficient to have the nail point clear of the spinous process and yet as near it as possible.

For the Cervical Region: From the superior border of the spinous process of the vertebra in question, measure to the side to be adjusted, a distance sufficient to clear the prongs of the spinous process and yet as near as possible without striking it.

For Atlas, lamina contacts are used. See Atlas subluxations.

Nail Point One is used on lamina contacts.

The cautionary remarks about transverse process contacts also apply to measurements for lamina contacts.

LISTING TILTS

A tilted vertebra is listed by describing the position of its centrum relative to the vertebra above or the one below, or both or by describing the position of the lamina on the side to be corrected.

TILTED MISALIGNMENTS

This is a term used to indicate that a vertebra has been elevated to the superior or depressed to the inferior on one side, relative to the vertebra above or the one below, or both, for it has rotated about a

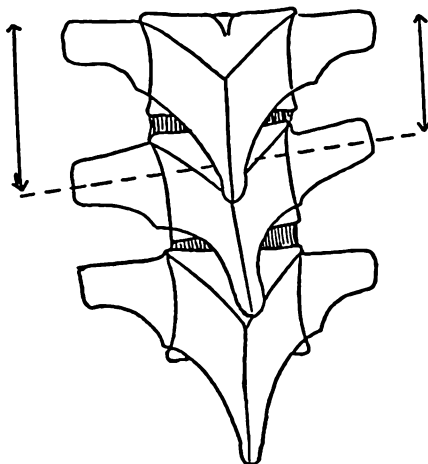


Figure 3

Tilt Misalignment
PR with Superior Tilt

horizontal axis. (See Fig. 3.) The numbers of these are legion and one must depend upon the spinograph and visualization to calculate the line of drive.

The best contact for tilted vertebrae is the Lamina Contact; or the Torque on the spinous process.

LINES OF DRIVE FOR TILTED VERTEBRAE WITH LAMINA CONTACTS

Ordinarily the drive is downward, allowing for the slope of the back at that place; that is, the drive is to the anterior. Altering the line of drive more to the sagittal plane will tend to move the centrum without moving the spinous process, if one does not strike the spinous process. Driving away from the sagittal plane tends to correct laterality of the spinous process. Sometimes it is necessary to drive against the spinous process to correct laterality when there is a tilt on the side of laterality. The line of drive is inclined to the superior or to the

inferior to take care of tilts. In doing this visualize the vertebra and keep in mind the amount of tissue one is working through.

THE TORQUE

The Torque is a method of using the toggle with a twist as the toggle straightens. This causes the nail point to travel in a somewhat spiral path—or the section of a spiral.

It is used on three-letter Listings and on some Tilted listings. It is necessary on Atlas subluxations to correct for superiority or Inferiority.

In drills the movement is explained by describing the direction the nail hand elbow takes. In giving the Torque the elbows swing around in a small arc. Nevertheless, in giving the Torque one should not think of the elbows but keep the mind on the nail point and the point of contact; just as in playing golf you keep your eye and mind on the ball. Think of where you intend to make the point of contact go; to make it travel in the section of a spiral and of making your nail point pursue it in that spiral path. This necessarily is a "follow through." But do not let the follow through diminish the speed any more than can be helped. In the dorsal and lumbar regions, first drive the point of contact toward the median line and then to inferior or superior as the case may be; but at the same time anteriority is maintained through both these directions.

SACRAL MISALIGNMENTS

Sacral misalignments are displacements of the sacrum relative to the ilia and the 5th lumbar vertebra.

SACRAL LISTINGS

Sacrum Base, Right Low and Anterior	
Sacrum Base, Left Low and Anterior	
Sacrum Base, Anterior	} Same listing
Sacrum Apex, Posterior	

Between the sacrum and the ilia, there is an oblique articulation which slopes from above downward and from posterior to anterior. This articulation is classed as semi-movable and is of such a nature that the sacrum base is prevented from moving to the posterior. When a misalignment of the sacrum base occurs, that movement from the normal position is toward the anterior. There is then a rotation of the sacrum about a horizontal, transverse axis. The axis of rotation is at the articulation between sacrum and ilia which allows the base to move too far toward the anterior while the apex moves too far posterior.

SACRUM APEX POSTERIOR OR SACRUM BASE ANTERIOR

By palpation and sometimes by observation it may be perceived that the second tubercle of the sacrum is not in line with the posterior superior spines of the ilia and further that the second tubercle is anterior. It should be compared to the position of the second tubercle of sacrum when a misalignment does not exist. Normally the second tubercle of the sacrum should be in line with the posterior superior spines of the ilia in both vertical and horizontal planes and equidistant from them. The first tubercle of sacrum should be about $\frac{1}{4}$ inch anterior to a line across the crests of the ilia and slightly anterior to the spinous process of the 5th Lumbar. This then means that if the sacrum base is anterior, the apex will be posterior.

ROTATED SACRUM —

RIGHT LOW AND ANTERIOR AND LEFT LOW AND ANTERIOR

The auricular articulation between the sacrum and the ilia may allow the sacrum to rotate about a vertical axis so that the direction of rotation is toward the anterior but because of the slope of this articulation, the sacrum base will move toward the inferior as the base goes anterior. The sacrum base is then listed as Right Low and Anterior if on the opposite side, Left Low and Anterior.

By palpation the following points are used to determine the listing: The tubercles of sacrum will not be in the median line with the spinous processes of the lumbar vertebrae, that upon the side of rotation, the fossa between ilium and sacrum palpates deeper because the base has moved toward the anterior on that side, relative to the ilium; and that the distance between the second tubercle of sacrum and the posterior superior spines of the ilia is unequal, being closer on the side which is low and anterior, and lastly the fourth tubercle of sacrum will be on the opposite side of the median line to the side of sacrum which is low and anterior.

MISALIGNMENTS OF ILIUM

A misaligned ilium is misplaced, relative to the other innominate bone, and its auricular articulation is out of proper juxtaposition with that of the sacrum.

By observation and palpation it is perceived that the crest of the ilium is more posterior than the other ilium crest. Its posterior superior spine is not in line with the one on the other ilium and the 2nd tubercle of the sacrum; also it is nearer the 2nd tubercle than the other posterior spine and more posterior. The fossa between the misaligned ilium and the tubercles of the sacrum is narrower and deeper than the

other fossa. This is because of the slanted plane of the auricular articulation.

LISTING THE ILIUM

It is listed: Rt. Il. P.; Lft. Il. P.

CONTACTS

The best contact is upon the broad lip of the ilium crest about an inch to the superior from the posterior superior spine of the ilium, where edge of the crest faces the posterior. Use Nail Point One, with a low arch. Line of drive is to the anterior and from the median line.

MEASUREMENTS FOR CONTACT

Palpate to 2nd tubercle of the sacrum. Keep middle finger on it and with the forefinger of the same hand palpate laterally to the posterior superior spine of the ilium in question, then measure to the superior one inch. It is best, then, to change pointer fingers, using the pointer finger of the other hand.

At any time, in changing pointer fingers for any misalignment, care should be taken not to lose the spot of contact in making the change.

ILIUM POSTERIOR SUPERIOR

This is the same as the posterior misalignment with the addition of superiority.

By observation and palpation, it is perceived that the crest of the misaligned ilium is more posterior and superior than the other ilium crest. Its posterior superior spine is not in line with the one on the other ilium and the second tubercle; it is out of line, both to the posterior and to the superior—in both the vertical and the horizontal planes. It is closer to the second tubercle than the other posterior superior spine. The fossa between the misaligned ilium and the tubercles of the sacrum is narrower and deeper than the other fossa. This is because of the slant of the auricular articulations.

A posterior superior ilium may be mistaken for a tilted pelvis or vice versa. The following points may be used to check. In tilted pelvis the lumbar region has a curvature; the tubercles of the sacrum are in line with the spinous processes of the lumbar vertebrae, but the sacrum is not vertical, but tilted as viewed from the posterior. The ilia are in proper relation to the sacrum and to each other; the posterior spines and the second tubercle are in normal alignment.

LISTING

It is listed Rt. Il. P. S.; Lft. Il. P. S.

CONTACTS

The contact is just the same as for Il. P. except perhaps a little more to the superior. The measurements for contacts are the same.

LINE OF DRIVE

The line of drive is to the anterior and away from the median line, and toward the inferior.

MISALIGNMENTS OF COCCYX

The coccyx, consisting of four segments, can be misaligned as a whole, in relation to the sacrum, or some of its segments in relation to each other. It can have its apex to the anterior, hinging on its basic articulation with the sacrum. Sometimes a sacrum apex posterior is responsible for that, the taut ligaments holding the coccyx forward. Sometimes one or more segments of the coccyx are bent forward to the anterior, hinging on the segment above. Laterality is often combined with these positions. Sometimes the coccyx as a whole or in part is posterior. In most cases of this kind the sacrum is at fault, the base of the sacrum being posterior. It is taken care of by adjusting the base of the sacrum to the anterior.

Besides adjusting the sacrum to move the coccyx another contact is under the tip (from anterior) obtained by pressing against the sphincter muscle of the anus, and tucking the integument with the tip of the adjusting finger under the tip end of the coccyx. By these methods, both palpation and adjustment are on the external, with external contacts. This is the *straight Chiropractic* way of adjusting the coccyx. The coccyx is to be regarded as any other vertebra, to be palpated and adjusted with the recoil from the outside of the body as any other vertebra.

The method of adjusting the coccyx from the internal by entering the rectum with the finger to palpate and move the coccyx is a form of surgery. As such it cannot be a part of this book which contains only the straight Chiropractic methods, the Palmer way. For the same reason Old Moves are not given in this book, though both old moves and internal coccygeal adjusting are done by some chiropractors.

Mechanics of Spine and Abnormalities

MECHANICS OF THE SPINE

The spine is designed to allow movements of its segments upon each other in many directions to perform their normal functions. It would be well for the student to study orthopedy closely so as to be able to visualize and to know the spine in all its positions. We will mention a few of the normal positions here.

The spine normally has sigmoid shape, to give grace, balance, strength and mobility to the spine. When a person bends the spinal column by leaning forward or laterally it is called flexing. When he straightens, after bending, it is called extension. When he bends backward, it is called hyperextension. The curving or the straightening of the spinal column, when it is done normally, has no other names than these. When one bends laterally, the centra of the vertebra swing over (rotate) to the concave side of the spine. These are not called rotations, for that name is reserved for abnormalities and these positions and movements that we are talking about now are normal. When one turns his face to the right or left it turns (rotates) all the vertebrae from the atlas down to the twelfth dorsal; the atlas a great deal, and as you count downward each vertebra turns less and less, until we find that the twelfth dorsal turns scarcely at all. This has much to do with our lines of drive in adjusting. The adjustor should study the mechanics involved in this turning and calculate his line of drive accordingly.

CURVATURES

Now, if any of these deviations from the regular erect position of the spinal column with its normal sigmoid bends, should become fixed, ("frozen" that way) or be in that position most of the time, that would be an abnormality. These abnormalities are called curvatures; not curves but curvatures. There are three kinds as classified according to direction. Kyphosis, with convexity toward the posterior; lordosis, with the convexity toward the anterior; scoliosis, with the convexity toward the side. There are combinations of these; as, kypho-scoliosis, lordo-scoliosis, etc. These curvatures may or may not have abnormality rotated vertebrae (Rotated Subluxations) in them but it is usually the case. But whether these rotations are real subluxations or not, they, as abnormalities, are called Rotations, implying the rotation of a whole group. Therefore curvatures can be combined with rotations; as, rotatory-scoliosis. These conditions are abnormalities. All abnormalities are the result of subluxations in the spinal column, therefore Spinal Abnormalities are effects resulting from interference with transmission, as any other dis-ease. They may be causing dis-ease somewhere, but

they themselves are dis-ease caused by a subluxation somewhere. Then this dis-ease, this curvature is right in its own home in the spine. This cause is THE subluxation. The other so-called rotations may not be subluxations at all; or they may be subluxations causing dis-ease somewhere very remote from this curvature. You should not adjust them unless they are interfering with the transmission of mental impulses. When you adjust THE subluxation, do not try to place mechanically, as one would perform a surgical operation, the subluxated vertebra or its neighbors back into the sagital plane of the body and in beautiful alignment and graceful curves according to a laboratory ideal, but be sure to find the one subluxation there, in that group, perhaps that is pressing on the nerves that lead to the muscles and ligaments holding it (or failing to hold) and its neighbors in place. Then adjust that cause of spine dis-ease. Open up its foramina—do not think of the other foramina just now but get this vertebra into proper juxtaposition with the one above or the one below, or both. That is the rule which will determine the direction to adjust it. Even if you have to drive away from the sagital plane of the body. (do not let surgery mislead you) do it, if it is necessary, to remove pressures from nerves; restore transmission to the tissues of the neighborhood of the vertebra in question, so that Innate Intelligence can strengthen these muscles and ligaments. Then Innate, not you can pull those vertebrae into the sagital plane, place her own graceful sigmoid curves in the spine, not of laboratory conception.

ANKYLOSES

Sometimes the spine gets cemented into postures that cannot be changed, by a bony growth or change of bone. This is called ankylosis. Many times the spine gets fixed into curvatures, but even if the spine is erect and cannot be changed, adaptatively, it is a curvature nevertheless, for normal things can be adaptatively changed. Ankyloses are made by an exostosis of bone, produced by subluxations in the spine itself, perhaps by the affected vertebra itself. Sometimes ankyloses are built by adaptation to an occupation.

Ankyloses are built of bony tissue. This bony building material for ankyloses is called exostosis. There are two kinds. Those built by Innate of perfectly good bone cells, for adaptation in helping muscles and ligaments support the spine; and those built of dis-eased bone cells, and which Innate does not wish in the body. Innate does not close up foramina with the ankyloses. She builds, for Innate would not play practical jokes on herself in that manner. The way to eradicate the kind of ankylosis that Innate built, is to get rid of the thing that made it necessary to give the spine that extra support. If it is the result of some dis-ease, adjust to get rid of the dis-ease. If it is occupational, change the occupation.

The other kind of ankylosis is made of exostosis that is not healthy bone cells but is a rearrangement of bone made plastic by pathology and dis-ease. This kind *will* close foramina. If one wants to do anything for this kind of ankylosis he must start early before much tissue is destroyed and the ankylosis heavy, or the vertebra or its discs destroyed. If the trouble is of long standing so that these things have taken place, the chiropractor can do nothing for that case. He can do nothing unless the ankylosis is light, the vertebra and discs all present. Even then, he should not undertake to adjust such a vertebra, (or injured spine as result of trauma) without spinograph pictures.

BREAKING ANKYLOSIS

At one time, it was the recommended procedure to break an ankylosis by adjusting the point of that fusion each day with the intention of removing the subluxation allowing Innate Intelligence the opportunity to convert the ankylosed point into thinner bone tissue until finally it would break easily under adjustic force. However, the practice has changed but the principle remains the same. Innate Intelligence builds an exostosis or ankylosis as a "crutch" to a weakened part. This abnormal growth has a definite assignment. Therefore adjusting the ankylosis itself is not in accordance with the demands of Innate. Removal of the subluxation causing the essential weakness and need for extra strength, also removes the need for the ankylosis and when the need is gone, the ankylosis will also disappear in due time without the addition of an external concussion of forces.

Developing the Recoil Adjustment

Introduction

When the student first enters into the study of Chiropractic, he should understand thoroughly that he is making a "right about face", in the standard or orthodox lines of reason and deduction. In the field of Chiropractic, we do not attempt to treat affects; we make no claims that we, ourselves, bring about a correction of any abnormal condition existing in the body; but make it clear that the internal reparatory activity of the body is always the agent responsible for any correction that takes place. It always brings about correction to the fullest extent of its capabilities, and when complete correction cannot be established due to the limitations of matter, adaptative activity enters into the procedure and brings about an adaptative arraignment that will be best for the longevity of the body. All activity within the body becomes secondary to the primary objective of Innate Intelligence which is to establish normal mental impulse supply between the brain and the body.

At the very instant that a subluxation exists the body starts trying to reduce the pressure and restore normal energy conduction. Literally, a combat is going on between the internal corrective force and the external invasive force.

In order to understand thoroughly the procedure involved in an adjustment, and the Innate Activity which finally is the source of correction, it is necessary to understand some fundamental principles of Mechanics and make basic application of them to all movement in the body.

1. All motion is the result of force acting in or through matter.
2. The potential of any force varies directly with speed.
3. All mass or matter possesses resisting forces.
4. Regardless of the number of forces applied to an object, they synchronize with each other and with the resisting forces to produce one single direction of force which is known as the "Resultant" (Object will move in this direction).
5. All mass has a "Gravity Center" from any given point (A plumb line through this point when object is balanced on said point will define gravity center).

A subluxation is caused by external invasive force or forces entering the body and producing a force resultant greater than the resultant of the internal resisting forces. The external invasive force or forces entering the body encounters the internal resisting forces causing a new direction of force as it passes through each segment. In an effort to dissipate, it travels through the osseous structure of the body and finally it will move the weaker segment from its normal position. The procedure of adjusting is simply that of determining the resultant of the forces that are trying to move the segment to its normal position and manually applying a force to act with this resultant of the internal reparatory forces to produce a perfect and complete resultant which will move the segment to its normal position and reduce interference. The internal reparatory forces begin to correct a pressure at the instant that it appears in the body these same corrective forces synchronize the energy, which we apply with its established force resultant in an effort to re-position the segment.

Lack of space prevents a complete study of necessary physics and a short explanation of the safety factor regarding line of drive cannot be clearly written. The instructor must demonstrate and explain this. If the gravity of the segment is established from the point of contact and is produced upward past the body of the technician then the line of drive should always be so applied that it acts in the direction this should move.

The entire procedure which we will elaborate upon now, will be for the purpose of developing the art of applying a force so that the

body itself can utilize this force into its established resultant. The students should in all cases develop themselves step by step, letting each step prepare them for the step to come. By doing this, he will develop faster and more satisfactorily than in any other way.

It is well known that in any developed art relaxation is the first requisite. The student must develop the art of relaxation and at the same time build certain brain patterns which will Innately guide the procedure. Each of the following steps should be applied in drill until efficiency is attained before proceeding to the next step.

No. I—STANCE (UPRIGHT)

The first thing a student must do is to learn how to stand correctly on his feet. The feet should be spread approximately 20 inches apart. This will vary with individuals. The comfortable position is recommended. As he stands in this position about 80 per cent of his weight should be on the balls of his feet. Very little weight is deposited on his heels. He must have a sense of security such as a prize fighter has when he is in a fighting stance.

No. II—STANCE (FORWARD)

After developing this upright stance the student should lean forward with his hands hanging before him in a thoroughly relaxed position and carry with him the same sense of security and control of the body he had in the upright position. He should lean over until the body is approximately at an angle of 90° and from this position raise and lower his body until he "settles" into the most comfortable position. The body must be completely relaxed as well as the shoulders and arms. As relaxation is attained, the hands will have a pulling down sensation. The arms should be dangling and feel perfectly free. There will be a normal elbow bend from this relaxed position. The shoulders, the elbows, and the hands will aid in the same plane.

No. III—LEVER

When relaxation has been established, the student is then ready to develop the lever principle by the use of his arms. He will tense the tricep muscles which will straighten the arms and drive the hands down. Instantly when they have straightened he will relax the muscles and the hand will recoil as the arms seek their relaxed position. This drill must be carried on slowly at first, speed should be injected into the drill gradually and at the same time maintain complete form throughout the procedure.

No. IV—SHOULDER ACTION

The student is now ready to put shoulder action into the drill. This is accomplished by contracting the shoulder muscles to the anterior and bringing the shoulders forward simultaneously with the arm action as described. This might be referred to as the shoulder punch the prize fighter uses and the instructor should demonstrate exercises and means of developing this action. One exercise of value is that of standing with spine and head against a post or corner and holding arms straight out, drive hands forward using shoulders, without breaking contact with object against the spine and head.

This action will gradually become part of the pattern and depth will be regulated accordingly. The muscles of arms and shoulders will absorb all shock and prevent any force from reaching the spine of the adjustor.

No. V—TORQUE

At the instant the student begins to understand the steps already given, the torque should be introduced so that the *over-all* pattern can be developed together. The torque is used to effect a spiral type of force acting around the gravity center of the mass involved.

It is included in the recoil by a cork-screw action of the arms that follows the toggle to completion.

No. VI—BALANCE

The proper delicate balance of the body is necessary and must be taught here: Stand behind speeder and go through all the steps given thus far up to the point of having hammer hand and nail hand intact and relaxed, (Nail points, nail and hammer hand should be taught here, see other sections in this book) raise shoulders and, without changing elbow bend, walk over to speeder and lower self down until **JUST THE WEIGHT OF THE HANDS REST ON SPEEDER.** Then lift hands toward the episternal notch. If balance is correct, the weight of hands will raise you on the balls of your feet. If this is not accomplished, shift feet backward or forward until proper balance is established.

No. VII—RESISTANCE

At this point the student is ready to work against resistance. He should hook his hands together with the palm down, then keeping arms and hands completely relaxed, he should raise shoulders, walk over to speeder, and let down until just weight of hands rests on speeder and his stance is of such a nature that lifting his hands toward the episternal notch will raise him on the balls of his feet. Having developed every step in the procedure thus far, he is ready to continue this same drill with just the weight of his hands on the speeder

working against resistance. He should drill several times on the speeder and several times in the air and the entire procedure repeated many times until he can carry the same form in detail with him on the speeder, keeping all forces acting down into speeder.

NO. VIII—ACCOMMODATION

It will be noted that the arm over hammer hand will have a greater angle at the elbow. This will throw the direction of the thrust off unless the mechanical features are compensated for in some way. We drill the student for muscular compensation in the following manner: He first stands erect, selects an object out in front, standing directly in front he holds his nail hand and hammer hand out and sights nail hand to this point. Then he brings his shoulder and arms into action and forces his nail hand to travel directly toward that point. When this is done, accommodation takes place in the arms and shoulders, and the shoulder over hammer hand accommodates Innately. The next step would be to select a point on the floor, lean over with shoulders square to point, arms thoroughly relaxed with hammer hand and nail hand intact, bring together the elbows and shoulder muscles, forcing the nail point to travel toward the selected point on the floor. This drill should be continued until accommodation is established and the brain pattern is fixed.

The entire procedure in developing the recoil adjustment can be divided into two possible classifications.

FIRST, the mental drill. SECOND, the manual drill. One drill is as important as the other. They must be developed together for the purpose of establishing an accurate coordination between the brain and the muscles of the body. The student should spend a great deal of time thinking over all the mechanical phases of the adjustment. He should be able to close his eyes and perceive every detail from the beginning to end. He should think over this many times daily in order to develop the proper mental picture, as he will never be able to follow through with an adjustment that is any more ideal than the mental pattern which he has established. Having established the correct mental pattern, it is then a matter of concentrated drill to train the muscles to instantaneous response.

In summation, the adjustment is brought about by first establishing normal balance stance over the patient and having adjustor in delicate balance as heretofore described. Just the weight of the adjustor's hands are resting on the patient. The roll in and contact of nail and hammer hand is such that they will still be in position while the arms and hands relax. The elbow bend is the normal relaxed elbow bend as heretofore described. The adjustment is applied by whipping the elbow in under the shoulders with the shoulders simultaneously driving the elbows down to required depth. The relaxation of the shoulders

and arms cause the hands to recoil back toward the episternal notch. The weight of the hands raises the adjustor on the balls of his feet and causes the body to drop slightly, thus climaxing the adjustment which has been done with great freedom and ease if every detail has been properly built into the pattern. Depth of stroke is a question that is often asked by the student and one that cannot be answered in any definite measurable terms. Correct depth is also an Innate injection that is established only a split second before the thrust is made. The student should develop depth varying to one and one-half inches.

If there is a secret to this accomplishment, it is concentrated drill work. The chiropractor should brace himself for work of this type daily for the rest of his professional career.

LIMBERING DRILLS

Any drills or gymnastics which will make a person supple and quick is good for toggle-recoil. Keep the hands and arms limber. A musician is called an artist; so is a dancer. They are artists because they are able or skilled with their hands or feet, or throats. A chiropractor is no less an artist than these; at least he should not be any less skilled in his line of artistry. They practice many hours a day to make them supple and dextrous. The good adjustor does the same.

One of the most beneficial exercises for Chiropractors is the daily use of a punching bag, as this exercise develops excellent coordination and speed.

PALPATION

Palpation is the art of feeling, pressing, and exploring with the fingers to gain information. It is used to determine the density, number, shape, and position of structures lying beneath the surface of the skin.

VERTEBRAL PALPATION

Vertebral palpation is the art of feeling, pressing, and exploring with the fingers the region of the spinal column, to gain information of conditions there.

Palpation being an art, it is evident that to attain a high standard of proficiency, a person must practice a great deal. This practice need not be monotonous if the student will make his work scientific: set a goal and work for that goal. We will endeavor to tell a few of the things that will make your practice more scientific and to show you what it really is that you are striving to accomplish. The practice is for the development of the sense of touch, and as in the study of music it requires a great deal of practice. Palpate anything and everything for practice. Not only is it necessary to develop the sense of touch by these methods, but it is also necessary to practice palpation on the human back to specialize; to get acquainted in the feeling of tissue

under the tips of the fingers and the hardness and softness as the tips of the spinous processes glide under the fingers. This is a sensation not well perceived at first. It takes practice while thinking about it. By practice a person does not increase the number of touch receptors, but he does sharpen his perception. It trains him to pay more attention to what his finger tips tell him. The touch receptors always give the information but an untrained person is more inattentive than a trained person to what they are saying. To train attentiveness to the fingers is what the practice is for, for actually, sensation is in the brain and not in the fingers.

MENTAL PRACTICE

So, after all, palpation practice is mental drill. The careless palpator is mentally lazy. It is certain that a mere rubbing of the back with the fingers, with the mind on something else, will not serve to connect the information with the receiver. The palpator should concentrate mentally on what he is doing; to "listen" to what his finger tips are saying. As a person narrows his lids to sharpen detail in vision, and seems to project his educated mind into the eyes to see something definitely, so one feels that he is projecting his educated mind into his finger tips; concentrates his attention to that spot. Since most of us are "single track" perceivers, we will be unaware of things going on about us. Therefore we cannot talk, visit, or solve problems of other kinds while palpating. If the student will practice palpation in the manner explained it will remove much of the humdrumness from his work and give him scientific interest in it. There are other principles included in this interest.

VISUALIZATION

Visualization is the mental recognition of objects of familiarity; of concepts built from educationally stored percepts. A person mentally reconstructs a vertebra and its position, normal or abnormal, by using his knowledge gained from the study of Orthopedy. The nucleus of this reconstruction is what information one can, at the present moment, gain from the palpable parts of the vertebra. Certainly, one could not palpate the whole vertebra—just the little hard lump that the tip end of the spinous process makes under the flesh. This, then, is the nucleus that you are able to perceive. Then you build onto that palpable lump, the rest of the vertebra from your previous knowledge of the vertebra. It is evident that you cannot thus rebuild it unless you KNOW a great deal about it. In this manner you are able, with a fair amount of accuracy, to determine the normal or abnormal position of vertebrae. You can see that good visualization will require mental concentration, knowledge of the spine, sincerity of intentions and persistence.

THE SENSE OF TOUCH

In the cultivation of the sense of touch, the student should use light stroking. While he is learning this is especially necessary. Even after one has become a palpator, a light touch is best for palpation for it gives more information as a rule. There are more than one kind of receptors for feeling. Touch receptors are very superficial and require motion to register best. Pressure tires and benumbs them. They are most numerous in the tips of the fingers and tip of the tongue. The use of touch receptors give the most accurate "localization." In the deeper structures of the skin and in many of the internal tissues of the body are pressure receptors—much like the touch receptors, except that they require pressure to make them register. By the very fact of their locations, they have not as much ability of localization as those of touch. Of course, we use these in palpation in actual practice, on occasion, but if a person trains himself to depend on them his palpation cannot be so accurate as when he uses touch mostly. One can assure himself that the pressure sense is always available if he needs it, while he cannot reverse the order so easily. The beginner always wants to palpate heavily. This is from the mistaken purpose. The purpose of the beginner, his single goal is to cultivate the sense of touch. He is not "in practice" and the health of the patient does not, while he is learning, depend upon his work. Occasionally, palpation is used to determine the "listing", i.e., Anteriority, Posteriority, and or Laterality of a subluxated vertebra but it can be seen that this method of listing is highly inaccurate and should be used only in dire emergencies. After you have learned to palpate, then learn to count bumps accurately. When you can count bumps, begin to visualize and from your visualization try to list the positions. However, it can be seen that the "listing" of a subluxated vertebra can only be accurately determined from scientifically taken X-ray film. The greatest value of palpation is in the correlation with X-ray films to locate the parts of the vertebra to be contacted. Too much stress cannot be laid upon accurate palpation in this instance.

Accurate and specific adjusting cannot be done without getting the right vertebra. Even with the listing from the spinograph one must be able to locate the specific vertebra when his patient is on the table to be adjusted. There has been no method or device discovered, as yet, to take the place of this palpation.

PRONE PALPATION

For the reason that the prone position of the patient alters the position of the vertebrae from that of the sitting posture, the student should learn to count and visualize with the patient in the prone position as well as the sitting. It is good practice to palpate first in one position, and then in the other.

PALPATION FOR HEAT

Prior to the use of the Neurocalometer palpation for varying degrees of heat was a common practice. The palpator would note increased areas of heat over the point nerves exited from the spinal column. In acute cases where the heat was palpably of greater degree, the area of increased heat was referred to as a "hot box". This practice led to the discovery of the Neurocalometer.

To palpate for heat, the dorsal surfaces of the fingers are best because there are more heat receptors in the dorsal surface of the fingers than in the anterior surfaces. The palpating fingers are kept close to the medial line of the spine over the exits of the spinal nerves from the foramina. Raise the hand from the back each time a spot is tested to allow the temperature of the fingers to return to normal.

PALPATION FOR TAUT AND TENDER FIBERS

A taut fiber is a taut string, supposed to be connective tissue, varying from the size of a thread to a good sized cord. Sometimes it "fans" out a little at one end. It extends horizontally from the spinous process to the adjacent transverse process. Sometimes, it may take an oblique direction. It indicates an impinged nerve in that region. The spinous process to which it is attached is the subluxated vertebra. This taut fiber does not indicate the laterality of a subluxated vertebra and can in no wise be used for listing. When this fiber is tender it indicates an acute condition.

It is palpated by brushing the palpating fingers across its course, the movement being parallel to the spine and near the spinous process. If acute, it requires very little pressure. It is best sensed by the light delicate stroke. In atlas subluxations, the taut fiber may be found in a vertical direction between the atlas and axis or between the atlas and the occiput, on the right or left side. The stroking here is horizontal.

Palpation Method

PREPARATION OF PATIENT

The patient is prepared for palpation by being dressed in some garment that can be removed from the back, (a narrow space is all that is necessary) so as to expose the bare back. Do not try to palpate through clothing, not even through the thinnest of clothing. The back should be absolutely bare. There should be no strings, elastics to confuse the count; not even a string of beads on the neck.

POSTURE FOR PALPATION

For analysis, the patient should be seated on a stool about fifteen to eighteen inches high. This stool should have a level top and have no cushioning. The patient should be seated on the stool in a natural and easy position. He should not be too straight or leaning over, except at times when the palpator may require that position for some purposes of comparison, as in counting. The feet should be placed side by side, flat upon the floor and the hands should be in the lap. The knees or legs should not be crossed and the hands should not be resting on the hip or on some other object near; and the body should not be twisted. These positions twist the spine or raise the pelvis on one side or the other, thus making curves, and all these are misleading to the palpator.

POSITION OF THE PALPATOR

The palpator should stand at the side of the patient (either side) with his hand on the patient's shoulder, to steady himself and to steady the patient. Have the hand on the patient's shoulder so that the thumb will be to the posterior and the fingers toward the anterior. Do not lean on the patient or pull him out of line. The other hand is used for palpating, and you can always know that you are using the proper hand for palpating if *the little finger leads down the spine*. For cervical palpation, the palpator's posture is the same, except that the forehead of the patient rests in the palm of the hand of the adjustor. With this hand the head can be lowered toward the anterior, or brought more to the upright position, as need be, to relax the neck muscles and ligaments for easier palpation. When removing the hand from the forehead, give the patient warning by removing the hand slowly. Never "pump" the patient's head up and down violently, as some careless palpators do, in finding V. P. Do not pull the patient's head to one side when you are palpating cervicals. Always keep the forearm horizontal as much as possible, and the hand relaxed and easy, in a straight line with the forearm, with exception of the arch of the hand. As you work from above downward, bend over to keep the

forearm horizontal and straight. The hand should be slightly arched, so as to prevent the hand from touching the back or clothing. Do not rest the hand on the back. The arched hand also presents the finger tips of the first, second and third fingers in a straight line. The fingers should be close together—not spread apart. The counting and main work of palpating is done with the middle finger tip, the others assisting and helping to “localize”. You will find it more difficult to count accurately with the fingers separated.

In palpating, stroke from above downward with three palpating fingers. If the first stroke does not net the information, stroke again. When you have counted to the vertebra in question, stroke over its top and sides, always comparing it with the one above and the one below. In the cervical region it is necessary to use more pressure. Also it may be necessary in palpating for ankyloses, rotations and the like. In the cervical region you compare the junction of the prongs, (bifurcation) with the junction of the prongs of the spinous above and the one below. In prone palpation, the same care should be taken to keep the forearm and hand straight and relaxed. As you palpate from superior to inferior, sidestep, so as to keep it in that position. In prone palpation, as in the sitting posture the little finger leading down the spine is the indicator of the proper hand to use.

When you begin counting vertebrae, naturally you must have a place to begin. If you have learned cervical palpation, the best place to begin is with the atlas and axis. If you are beginning, just learning to count, the place to begin, is the first dorsal. Since you cannot find the first dorsal by palpating through the cervicals, it will be necessary to use some other method. The following is the one commonly used in the Freshman Class: Stand directly behind the patient. Find the little notches in the outer extremities of the shoulder blades; the projections overhang the shoulder joints, and give to the shoulders their squareness. This notch is the acromial notch in the acromion process of the scapula. Placing the tips of the middle fingers in these notches, step the forefingers toward the neck along the ridge of the shoulders. Then, imagining a line across the spine, between the two forefinger tips, step the thumbs over to the median line of the body, exactly in this line. Unless the patient is unusually square shouldered, or slope shouldered, the thumbs will be upon the first dorsal spinous process. Then exchanging the thumb for the middle finger of the palpating hand, step to the side into the position for palpating and proceed to count vertebrae from above downward. In counting vertebrae, always count from above downward. This is more exact. The vertebrae are numbered from above downward; it is easier to stroke with the aid of gravity than against it; and it is more natural to work away from the starting place, which is number one.

LANDMARKS

Note and keep in mind or on paper any peculiarities of the spine for landmarks; an unusually large, or short, or long, or a bent process. Skin markings are not reliable. The most common landmark is called V. P. (vertebra prominens). It is usually the seventh cervical vertebra, but often is the sixth cervical or the first dorsal. Never put any reliance in landmarks, unless you yourself list them, and do not trust your own landmarks if your listing is old. Always be accurate in your count even if you have to palpate the whole spine and use a little arithmetic to check yourself. But when you have once established reliable landmarks, they are great time savers. For skin marking, as in NCM work, the skin marking pencil is used, but do not rely upon them in the change from sitting to prone posture for adjusting.

ADMONITIONS

The palpator should have his hands clean and fingernails trimmed, so he will not cut or scratch the patient. The palpator should not lean against the patient, or pull him out of position with the hand. He should not put weight on the patient's shoulder with his idle hand. The patient should be clean, and have the clothing arranged so that the palpator will have no trouble in his work. If there are different postures or other preparations to be made, as in nerve tracing, the patient should leave nothing to hinder the palpator's work.

AIDS TO PALPATION

In palpation, vision helps a great deal. One can see the "bumps" on thin people and you can even see laterality of the spinous processes sometimes. In investigating rotations and curvatures, the palpator may use vision a great deal. When vertebrae are hard to count because their spinous processes seem to merge, put the palpating fingers on the place where you think there is an interspinous space and have the patient alternately straighten up and "slouch" down. If there is a real space it will open up when the spine bends, and close when it straightens. This test can be used for suspected ankyloses. An interspinous space between ankylosed vertebrae does not open and close. This method can also be used to determine where the lumbar region ends and the sacrum begins. The segments of the sacrum do not move, when the back bends or straightens.

PALPATION OF ROTATIONS AND CURVATURES, ETC.

In rotations the muscles of the back are bulged on the side of the rotation over the transverse processes, and much firmer than on the other side. The line of spinous processes are usually close to the muscle as most rotations are in curvatures. It is not always easy to

palpate the transverse processes on account of the amount of muscles, unless the rotations are extreme. One should note curvatures in making analyses. They can be seen by stepping back a little from the patient. Not only can one see the curve of the line of spinous processes; but one can see the bulged muscle, on one side or the other. The palpator can, then use vision to assist in his palpation. Not only can one palpate rotations and curvatures and for ankyloses, but he can investigate the condition of the ribs where they join the spine.

NERVE TRACING

Nerve tracing is really a method of palpation, but one in which the patient assists. It is a real science in itself—developed by Chiropractic for chiropractors. We can only give a limited explanation here—just its philosophy and *modus operandi*. If the student is so fortunate as to possess an old Volume VI he can read about Nerve Tracing, elaborately explained.

Nerve tracing is the process of tracing a tender nerve from the foramen to the periphery or from the periphery to the foramen. We apparently trace only the superficial nerves even when a visceral nerve is impinged, nevertheless we find that in most cases the corresponding superficial nerve is tender. For instance, when pressure exists involving visceral nerves of the cardiac plexus its corresponding superficial nerve emitting from the second dorsal would be traceable around the course of the ribs under the axilla to a region over heart.

A nerve cannot be traced unless it is tender—unless it is painful when pressed upon. The philosophy of this is that a nerve which is conducting abnormally is an abnormal nerve, and if abnormal, it is a sick nerve and a sick nerve can be disturbed easier than other nerves by pressure. Therefore a person can trace a tender nerve in the midst of normal nerves, by a systematic line of pressures. This systematic line of pressure is along the course of the nerve. Not knowing the course of the nerve, the palpator makes a trial by stroking across the supposed course of the tender nerve with the pressing finger.

For palpation of this kind, nerve tracing, place the patient in any position that is most convenient for both palpator and patient. The regular palpating posture is best. The palpator supports the middle finger, (the pressing finger), with the thumb and forefinger. With the middle finger thus braced, one can exert sufficient pressure for nerve tracing. With this braced finger, press firmly and stroke or rub crosswise to the course of the nerve, with strokes about a quarter of an inch in length. Then raise the tracing finger, mark the spot found, with skin marking pencil and try another place not more than a quarter of an inch in advance. Be careful at branchings and take very short steps, being sure of the tests.

VALUES OF NERVE TRACING

Nerve tracing is of particular value in two ways. First, in proving to a student chiropractor the brain cell to tissue cell nerve continuity, secondly, in convincing the patient you can analyze their case without being told what is wrong, however due to the fact that *pressure* is usually above the segment where sick nerve emits we must not rely upon nerve tracing in choosing the place to adjust as this would prove a very faulty procedure.

In nerve tracing one must have the cooperation of the patient, who tells or signals when the tender nerve is pressed. Therefore one cannot nerve trace a patient who is mentally deficient, an unconscious person, or small children, unless one can judge a little by the flinching when the nerve is pressed upon. Herein lies the value of the Neuro-calometer, it can be used in all cases to determine when *pressure* exists, telling when to, as well as when not to, adjust for the correction of *the cause of disease*.

The patient is prepared as for palpation, but in case of extended tracing, a loose robe like a kimono is advisable. Nerve tracing can be extended in this way beyond the back, but it is necessary to nerve trace, in the region of the spine, on the bare back.

A GENERAL TRACING — EFFERENT TRACING

When the patient is in the posture you require, press with the tracing finger down the whole length of the spine on both sides, in quarter inch steps, about one and a fourth inch from the median line. Mark the tender spots. These tender spots can also be found in the following manner. Rub soap on the back, and then with pressure glide the tracing finger down each side of the spine about one and a quarter inch from the median line. Your finger slips easily and when it passes over a tender nerve the patient will inform you. Mark the tender spots. Then taking them up one by one, trace each toward its periphery, by stroking across its course in very short steps—not over one-fourth inch. Mark each tender spot found with the skin marking pencil. The line of marks thus found indicate the tender nerve.

AFFERENT TRACING. FROM PERIPHERY TO FORAMEN

Locating the exact place of the sickness, pathology, or pain, trace the nerve in the manner described above, to its emission from the spine. There are few methods so convincing to a patient as this, that nerve impingement is the cause of his dis-ease.

Adjusting Notes

The following notes on the technique of adjusting the various vertebrae of the spinal column are essentially a study guide. Memorization cannot supplant actual practice of technique drills. The variations in technique depend upon the following conditions: (1) the type of listing, (2) the vertebra to be adjusted, (3) the region of the spinal column in question.

In accordance with the principle that the Innate recoil is the adjustor, all these instructions have been developed for the toggle recoil adjustment. Thus, the patient is placed in either the prone position on the adjusting table (Hylo Table) or in the kneed posture.

In practicing the various contacts, visualizing the subluxation to be adjusted should be practiced from the very beginning so that a concise habit pattern will be formed early in the student's training. When the student literally "sees" the offending vertebra, the reason for standing side, turning the patient's head, standing position and line of drive will become self-evident.

CONTACTS

The contact for an adjustment of a vertebra, will be determined by the mechanical requirements necessary to reduce the misalignment in question. The points of contact recommended by these notes are: Spinous Process, Transverse Process, Mamillary Process and Lamina Contacts.

LATERALITY GROUP AND POSTERIOR GROUP

As mentioned earlier in the text, in order to facilitate instructions, spinous process listings are divided into two groups; (1) Laterality Group and (2) Posterior Group. The Laterality group are those listings in which the spinous process is either right or left of the median line, while the posterior group contains those listings without laterality. (See Fig. 1).

TORQUE

In addition to the lines of drive indicated, the torque is used on all three-letter listings. A study of figure will quickly reveal what direction of torque to employ for each listing.

The chart may be misleading to the student because he may conclude that Nail Point travels in an arc. Nail Point moves in a spiral about the contact point never leaving the contact point until the hands rebound. However the directions in Fig. 4 indicate the movement of Nail Hand Elbow. For example, for 6th Dorsal, PRS, if standing on the right side of the patient, the right hand contacts the 6th Dorsal spinous process. To torque: Nail Hand Elbow moves away, Hammer Hand Elbow moves toward you. If you cannot visualize this principle

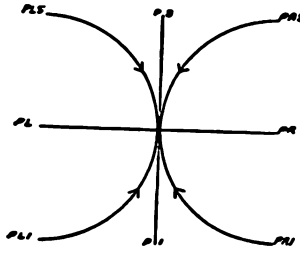


Fig. 4—Torque Directions

place Nail Point One of the Right Hand on the center of Fig 4, where all the lines intersect. This represents the contact point. Stand to the superior at an angle of 45° . Now, allow the right elbow to move in the direction of the arc marked PRS. You will note if Hammer Hand grasps Nail Hand that Hammer Hand elbow moves around the same arc.

SPINOUS PROCESS CONTACTS

Axis to 5th Cervical Lateral Group

1. Stand on either side of patient.
2. Turn the patient's face to side of laterality.
3. For palpation: if standing on side of laterality, stand directly opposite. If on the opposite side to laterality, stand to the inferior. Support the patient's forehead and palpate with little finger leading down the spine with palpating palm up.
4. Select a portion of the spinous process in accordance with the listing, raise the palpating hand, going to the median line and a short distance to the inferior, draw the tissue up to the point selected.
5. Do not change pointer fingers.
6. Assume standing position to the inferior, up close to patient.
7. Raise all fingers of the palpating hand but the Chiropractic Index Finger, turn palpating finger parallel to spine.
8. Roll in Nail Point Two, contacting the spinous process.
9. The line of drive depends upon the subluxation and the vertebra to be adjusted.

Note 1. Do not adjust axis to the inferior. Axis is not listed as Superior. An inferior line of drive will bring the odontoid process into a position to impinge upon the spinal cord.

(2)—Axis to 5th Cervical—Posterior Group

1. Stand on either side.
2. Turn patient's face away.
5. Stand to the inferior as you palpate.
4. Select the portion of the spinous in accordance with the listing.

5. Assume standing position well to the inferior, leaning out away from patient.
6. Draw tissue up to point of contact on the spinous process as previously described.
7. Roll in Nail Point Two.
8. The line of drive is given in accordance with the listing.
Note 1. The patient's face is turned away to facilitate an anterior line of drive.
Note 2. AXIS IS NEVER LISTED SUPERIOR. All the other cervical vertebrae may have superior listings.

(3)—6th, 7th Cervical, 1st Dorsal—Laterality Group

1. Stand on the side of laterality.
2. Turn the patient's face to the side of laterality.
3. Palpate with little finger leading down the spine to the spinous of the vertebra in question.
4. Change pointer fingers.
5. Assume standing position for:
PL or PR—Stand with the inferior shoulder directly opposite contact.
PLI or PRI—Stand directly opposite, tilting the inferior shoulder down.
PLS or PRS—Stand 45° to the Superior.
6. Draw the tissue up before taking contact.
7. Contact at right angles to the spine with Nail Point One.
8. Line of drive is given in accordance with the listing.
Note 1. Since the spinal curve in the area of 6-7th cervical and 1st dorsal region and that of the 4th and 5th Lumbar area is similar so the technique, especially regarding standing positions is similar.

(4)—6th, 7th Cervical and 1st Dorsal—Posterior Group

1. Stand on either side of the patient.
2. Turn patient's face toward you.
3. Palpate to the vertebra in question, locating the portion of the spinous process in accordance with the listing.
4. Change pointer fingers.
5. Assume standing position to the superior, with one foot in front of the table.
6. Lean well over the patient in the opposite direction to which the face is turned.
7. Draw the tissue up before taking contact.

8. Contact at right angles to the spine with Nail Point One.
 9. The line of drive is given in accordance with the listing.
- Note 1. See Note 1 for 6th, 7th Cervical and 1st Dorsal, Laterality Group.

(5)—2nd Dorsal to 3rd Lumbar—Laterality Group

1. Stand on either side of the patient.
 2. Turn patient's face to side of laterality.
 3. Palpate with little finger leading down the spine.
 4. Locate spinous of the vertebra in question.
 5. Select portion of the spinous in accordance with the listing. Raise all fingers but the Chiropractic Index Finger, drop hand on back and assume standing position for:
 PR or PL, directly opposite.
 PRI or PLI, 45° to inferior, if standing on side of laterality.
 PRI or PLI, 45° to superior if standing on opposite side of laterality.
 PRS or PLS, 45° to superior if standing on side of laterality.
 PRS or PLS, 45° in inferior if standing on opposite side of laterality.
 6. Take contact with little finger of nail hand at about 45° angle to spine. Nail Point One is rolled in upon the selected portion of the spinous process in question and the adjustment delivered in the opposite direction to the listing.
- Note 1. The face is turned to the side of laterality because this turning makes for a more convenient line of drive and a more prominent spinous process.
- Note 2. When standing on the opposite side of laterality correct for superiority by leaning well over the patient and driving back toward you, and for inferiority; stand to the superior and drive back toward you.

(6)—2nd Dorsal to 3rd Lumbar—Posterior Group

1. Stand on either side.
 2. Turn the patient's face away.
 3. Palpate with little finger leading down the spine to spinous in question.
 4. Select a portion of the spinous in accordance with the listing. Raise all fingers but the Chiropractic Index Finger, which is parallel to the spine.
 5. Assume the standing position in ALL CASES to the inferior.
 6. Take contact at right angle to the spine with Nail Point One.
- Note 1. Turning the face away provides an easier, anterior line of drive.
- Note 2. The standing position is to the inferior because of the inferior slope of the spinous processes in the dorsal region. Otherwise the contact is insecure and may slip.

(7)—4th and 5th Lumbar—Laterality Group

1. Stand on the side of laterality.
2. Patient's face may be turned to either side.
3. Palpate to the spinous of the vertebra in question.
4. Always change pointer fingers, after palpation.
5. Take contact at right angles to the spine.
6. For: PR or PL, stand with the inferior shoulder directly opposite contact.

PRI or PLI, stand directly opposite, tilting the inferior shoulder down.

PRS or PLS, stand 45° to the superior.

Note 1. The slope of the back in this area makes an inferior standing position impracticable. By standing opposite and tilting the inferior shoulder down, a superior line of drive is obtained.

Note 2. Patient's face may be turned to either side because the spine below third lumbar is unaffected by rotation of the head.

(8)—4th and 5th Lumbar—Posterior Group

1. Stand on either side.
2. Turn patient's face away.
3. Palpate to the spinous of the vertebra in question.
4. Change pointer fingers.
5. Standing position: To the superior, up close to the patient.
6. Take contact with Nail Point One at right angles to the spine.
7. The line of drive is given in accordance with the listing.

Note 1. Because the standing position is superior and up close to the patient the patient's face is turned away as a matter of courtesy.

Note 2. The slope of the spinous processes in this area necessitate a superior standing position. For the listing PI, the adjustor leans over the patient and drives back toward himself.

TRANSVERSE PROCESS CONTACTS**(9)—Single Transverse Contact for Correcting Rotations.
1st to 10th Dorsal inclusive****Listings: Body Rotated Right and Body Rotated Left**

1. Stand on opposite side to the rotation.
2. Turn the patient's face away.
3. Palpate to the spinous of the vertebra in question and hold this point with the Chiropractic Index Finger.

4. With the forefinger of the same hand, measure up the distance of the transverse process and out away about $1\frac{1}{4}$ inches. Locate the transverse by palpation.
5. Assume the standing position up close to patient and directly opposite.
6. Contact on the transverse process at right angles to the spine with Nail Point One.
7. The line of drive is to the anterior to correct the rotated vertebra.
 Note 1. Direction in which the spinous is misaligned is known as spinous listing. Direction in which the body is misaligned is known as Rotation. Three or more adjacent, rotated vertebrae constitute a Rotary Scoliosis.
 Note 2. The face is turned away because that produces a more prominent transverse on the side contacted.
 Note 3. Be certain of palpation because the transverse processes below the tenth dorsal are too short and slender for adjusting points.

**(10)—Double Transverse contact for Adjacent Opposite Rotations
 1st to 10th Dorsal inclusive**

**Listings: Upper Rotated Right and Lower Rotated Left
 Upper Rotated Left and Lower Rotated Right**

1. Stand on the opposite side to the superior rotation.
2. Turn the patient's face away.
3. Palpate to the spinous of the vertebra in question and hold with the Chiropractic Index Finger.
4. Measure up the distance of the transverse and out away from you $1\frac{1}{4}$ inches. Locate the transverse by palpation and change pointer fingers.
5. Palpate to the spinous of the inferior vertebra in question and hold with Chiropractic Index Finger.
6. With the forefinger measure up the distance of the transverse and toward you $1\frac{1}{4}$ inches locating the transverse process by palpation.
7. Assume the standing position to the inferior.
8. The superior contact hand is laid forward on the patient's back, maintaining contact on the transverse while a slight pressure is made with the pointer finger of the inferior hand leaving a white spot for guidance in contacting. With the same hand (inferior) take contact with Nail Point One at right angles to the spine. The Nail Point is placed on the white spot.
9. With the superior pointer finger make a slight pressure leaving a white spot for guidance and contact with the Nail Point One of the same hand (Superior) at right angles to the spine. The arms are now crossed and you have two points of contact.

10. The line of drive is to the anterior allowing for the curve of the spine.

Note 1. The adjustor is cautioned to palpate with care because contact on the transverse processes below 10th Dorsal must be avoided.

(11)—Double Transverse Contact for correcting a single vertebra with Posteriority. 1st to 10th Dorsal inclusive

Listings: P, PS, PI

1. Stand on either side.
2. Patient's face is turned away.
3. Palpate to the spinous of the vertebra in question and hold with Chiropractic Index Finger.
4. With the forefinger, measure up the distance of the transverse and out away from you $1\frac{1}{4}$ inches, locating the transverse process by palpation.
5. Change pointer fingers.
6. Having held Chiropractic Index Finger on the spinous process, with the forefinger of the same hand measure up the distance of the transverse and toward you $1\frac{1}{4}$ inches locating the transverse by palpation.
7. Assume the standing position to the Inferior.
8. In the same manner as for technique in contacting for adjacent opposite rotations, make a slight pressure with the inferior pointer finger and quickly take contact at right angles to the spine with Nail Point One. With the superior pointer finger make a slight pressure and contact at right angles to the spine with Nail Point One. The arms are crossed and you now have two points of contact on the same vertebra.
9. For: PS, Lean over the patient and drive back toward you.
P, Drive straight anterior allowing for slope of back.
PI, The line of drive is toward the superior.
Note 1. The face is turned away for a more convenient line of drive.
Note 2. Caution in palpating is again advised to avoid contacting the transverse processes below 10th Dorsal Vertebra.

LAMINA CONTACTS**(12)—Lamina Contacts for Single Rotations
Axis to 1st Dorsal inclusive**

1. Stand on opposite side of rotation.
2. Patient's face is turned to side of rotation.
3. Palpation: Axis to 5th Cervical: For right rotation, palpate with left hand, for left rotations, palpate with right hand with the palm up, to locate the spinous of the vertebra in question.
6th, 7th Cervical and 1st Dorsal: Palpate with little finger leading down the spine.
4. Having located the spinous process, with the forefinger measure up to the superior edge of the spinous and away about $\frac{3}{4}$ inch. This places your finger upon the lamina.
5. Change pointer fingers.
6. Stand directly opposite, close to patient.
7. Contact at right angles to the spine using Nail Point One and a very high arch.
8. The line of drive is given in accordance with the listing and the curve of the neck.

(13)—Lamina Contact for Single Rotation of 11th and 12th Dorsal

1. Stand on the opposite side to the rotation.
2. Turn the patient's face away.
3. Palpate to the spinous process of the vertebra to be adjusted.
4. Keeping the Chiropractic Index Finger on the spinous process, with the forefinger of the palpating hand find the interspinous space immediately above, and measure away from you just enough to clear the spinous process. This places the finger upon the lamina.
5. Stand opposite, up close to patient.
6. Contact at right angles to the spine with Nail Point One using a high arch.

The line of drive is toward the anterior.

Note 1. The lamina substitutes as a contacting surface for the short and slender transverse processes of the 11th and 12th dorsal vertebra.

**(14)—Lamina Contact for Single Tilt. Superior or Inferior Tilt
2nd Dorsal to 12th Dorsal inclusive**

1. Stand on side of tilt.
2. Turn patient's face away.
3. Palpate to the spinous of the vertebra in question. Hold this point with 3rd Finger while with the forefinger measure up the distance

of the transverse and toward you $1\frac{1}{4}$ inches. Bisect the distance between these two points with the Chiropractic Index Finger. This locates the lamina contact point.

4. Change pointer finger on the inferior tilts only.
5. Assume the standing position for: To the superior on superior tilts.
To the inferior on inferior tilts.
6. Take contact parallel to the spine with Nail Point One.
7. The line of drive is given in accordance with the tilt.

(15)—Lamina Contact for Double Tilts of the Same Vertebra.
2nd Dorsal to 12th Dorsal

1. Stand on either side.
2. Turn the patient's face away.
3. Palpate to the spinous of the vertebra in question.
4. Hold this point with 3rd Finger of palpating hand, and with the forefinger measure up the distance of the transverse and $1\frac{1}{4}$ inches toward the side of superior tilt, locating the transverse process. Bisect the distance with the Chiropractic Index Finger locating the first point of contact on the lamina. Change pointer fingers.
5. From the spinous process of the same vertebra, measure up the distance of the transverse and $1\frac{1}{4}$ inches toward the side of inferior tilt, locating the transverse and bisecting the distance in the same manner as on side of superior tilt. This locates the second point of contact.
6. Assume the standing position directly opposite.
7. Mark the points of contact by applying slight pressure, taking contact first with Nail Point One of hand closest to you and then with Nail Point One of the other. Both contacts should be parallel to the spine.
8. A scissor-like thrust is given to correct the tilt.

Note 1. There is a similarity between this contact and that of a double transverse contact but clearly differentiate these. In the lamina contact for a double tilt, the contacts are parallel to the spine while in the double transverse contact, the contacts are at right angles to the spine.

MAMILLARY CONTACTS

(16)—Mamillary Contact for Correcting Single Rotations in the Lumbar Region. 1st to 5th Lumbar inclusive

1. Stand on the opposite side to the rotation.
2. Patient's face is turned away.
3. Palpate to the spinous process of the vertebra in question.
For 1st to 3rd Lumbar: Locate superior edge of the spinous.
For 4th to 5th Lumbar: Locate Inferior edge of the spinous above.
4. Hold selected point with Chiropractic Index Finger.
5. With the forefinger of the palpating hand, measure away from you $\frac{3}{4}$ to 1 inch. This places the finger on the mamillary process, the contact point.
6. On the 4th and 5th Lumbar change pointer fingers.
7. Assume the standing position directly opposite, up close to patient.
8. Contact at right angles to the spine with Nail Point One.
9. The line of drive is given toward the anterior.

Note 1. It can be seen that there is a great similarity between the transverse, lamina and mamillary contacts for correcting single rotations.

SACRUM CONTACTS

(17)—Sacrum Base—Right Low and Anterior or Left Low and Anterior

1. Stand on the affected side of the sacrum.
2. Patient's head may be turned either way.
3. Palpate to the inferior lateral portion of the sacral apex, on the affected side, locating this point.
4. Assume the standing position to the inferior and slightly to the side.
5. Take contact with Nail Point One of the right hand for right listings and Nail Point One of the left hand for left listings. The little finger of the contacting hand will be pointing toward the opposite shoulder and will indicate the direction of the line of drive.
6. The line of drive is given toward the superior, laterally and the torque is "away" from you.

(18)—Sacrum Apex Posterior (Also listed as Sacrum Base Anterior)

1. Stand on either side of patient.
2. Turn patient's face to either side.
3. Palpate with little finger leading down the spine.

4. Locate the fourth tubercle of sacrum. This is the contact point.
5. Stand opposite, up close to patient.
6. Take contact parallel to spine with Nail Point One.
7. The line of drive is given at right angles to the sacrum apex, toward the anterior.

ILIUM CONTACTS

(19)—Right or Left Ilium Posterior,
Right or Left Ilium Posterior Superior

1. Stand on the opposite side to the ilium in question.
2. Turn the patient's face away (for courtesy).
3. Palpate to the second tubercle of sacrum and hold with the Chiropactic Index Fingers.
4. With the forefinger of the same hand, palpate away to the posterior superior spine of the ilium with the index finger.
For P: Measure up along the ilium 1 inch.
For PS: Measure up along the ilium 1½ inches.
5. Change pointer fingers.
6. Stand well to the superior, out away from the patient.
7. Contact with Nail Point One with the little finger leading away.
8. The line of drive is oblique in accordance with the oblique line of articulation between sacrum and ilium. For Right or Left Ilium Posterior Superior, the shoulders are dropped to obtain an inferior line of drive.

COCCYGEAL METHODS

The patient should be prepared by wearing a garment which opens in the back low enough to give access to the coccygeal region. When the patient is on the bench, further covering may be used by a drape such as nurses use. The adjustor should have his hands prepared by having them clean and finger nails, especially those of the middle fingers, trimmed very short. The patient may be palpated upon a palpation stool as for any other region of the spine and the coccyx listed an anterior at the tip, being bent at any of its joints or its union with the sacrum, is listed Coccyx Anterior. Laterality may be combined with anteriority and in this case is listed as Cocc. A. R. or Cocc. A. L. The coccyx may be bent with its tip to the posterior, the bend occurring at any joint, but usually at its junction with the sacrum. Laterality may be combined with this direction, and if so, the listing is Cocc. P. R. or Cocc. P. L. Any position of the coccyx which is too difficult for this mode of palpation should have a spinograph taken of it—both lateral view and A. P. view.

Place the patient on the bench or benches with the pelvis raised very high, head and legs sloping downward; or the knee posture may

be used. Further palpation may be done for investigative purposes with the patient in this posture. The adjustor may stand on either side, use either hand in a position that is most convenient to him. The nail point is the tip end of the middle finger, which is the adjusting finger.

To adjust:

For Cocc. A. palpate to tip end of coccyx, then press with the tip of the middle finger into the integument beyond the tip of coccyx and by exerting enough pressure with the finger, it can be securely hooked anterior to the tip of the coccyx, with contact on integument only. Then arching the other hand, place Nail Point One at a point on the surface which is over the acute bend of the subluxated coccyx.

In giving the adjustic move, pull sharply upward with the adjusting finger, at the same instant pressing downward with Nail Point One of the other hand. When laterality is involved the direction of the pull with the adjusting finger is altered to take care of laterality. It may be necessary to repeat this adjustment several times to get results.

For Cocc. P. use Toggle Recoil on the sacrum base which is posterior, which nearly always accompanies this sort of coccygeal misalignment or use Toggle Recoil on the tip of the coccyx with the fingers of the Nail Hand extending to the superior or use both of these contacts at the same time by crossing the arms. If laterality is involved, alter the direction of the drive on the tip of the coccyx.

Atlas-Axis Listings and Adjusting Technics

The following notes are not intended as a full explanation of a specific method of Chiropractic. The material is designed as a study aid and reference form. The outline is presented and the student is expected to fill the gap with practice and class room experience.

Specific Chiropractic refers to the ultimate approach to the cause and cure of *dis-ease*. It sweeps over all obstacles and delays, avoids the hazards of illogical approach. Specific methods depend upon the Spinograph and Neurocalometer for accurate listings and control of the time to adjust.

RECOIL

Specific Chiropractic is based upon the recoil principle. From time to time the spinal column is subject to concussion and the column reacts to that concussion. It does not react passively as a stick or wooden pole but dynamically and actively because it is living matter. If a blow or concussion of force happens to strike the middle of the back the effect is not confined to that circumscribed area. The effect of that blow will be transmitted in varying degrees to remoter portions of the spinal column. Since Atlas is not restrained by bony locks and has fewer muscular and ligamentous attachments than any of the other vertebrae, it is quite reasonable to assume it is the most likely to be subluxated whenever a concussion of force is applied to the spinal column, or for that matter, anywhere in the human body.

The P. S. C. library contains thousands of authentic accounts of accidents immediately causing many varied diseases. There are almost as many verified reports of spontaneous "cures" resulting from shocks, falls and accidents. The Atlas is the weakest link in the chain of the spinal column and consequently remains the easiest victim to an outside invading force. Concussions are not all derived from the outside, but internal stresses and strains are of the same major importance as physical accidents. Emotional accidents are just as important and play a measurable role in the production of subluxations.

TOGGLE — RECOIL ADJUSTMENT

The Toggle Recoil adjustment is a distinct Chiropractic development. A Recoil adjustment is one in which the concussion of forces delivered by a Chiropractor arouses an innate response to "strike back" in the same fashion as a nail strikes back at a hammer causing it to rebound from the nail's head. At the time of the adjustment the subluxated vertebra breaks out of its lock, returning to a normal position releasing

the pressure upon the nerves. The Recoil adjustment properly delivered is more permanent than an adjustment which forces a vertebra to move against the resistance of bone, muscle, and ligament. A "forced" adjustment does not have the ability to create a permanent adjustment as the vertebra in question soon moves back into a position producing nerve pressure. A Recoil adjustment depends upon speed of delivery rather than upon brute force in the same manner as a hammer drives a nail into hard wood by speed rather than crushing weight. This principle must not be forgotten when adjusting. The recoil is found in the beat of a bird's wing against the air; the crack of the bat against the ball; the snap of a whip; and even the microscopic impact of light particles upon the retina of the eye.

LISTINGS OF ATLAS

The Atlas is the most freely movable segment of the spinal column. It has less muscles and ligaments anchoring it to its normal position than any of the other vertebrae. The Atlas has more directions of listing than any of the other vertebrae. It follows then that the adjustment must consider more directions than in other regions of the spinal column.

The twelve possible listings of the Atlas are:

ASR (without rotation)	ASL (without rotation)
AIR (without rotation)	AIL (without rotation)
ASR Right Transverse Anterior	ASL Left Transverse Anterior
ASR Right Transverse Posterior	ASL Left Transverse Posterior
AIR Right Transverse Anterior	AIL Left Transverse Anterior
AIR Right Transverse Posterior	AIL Left Transverse Posterior

An Atlas subluxation always occurs in at least three directions and for the most part occurs in four. Because of the nature of the articulation between Atlas and Occiput, if one direction is present the other two will be present in varying degrees. ASR, ASL, AIR, and AIL may be present without incurring rotation, but in the great majority of cases rotation is present in varying degrees.

ANTERIORITY

Anteriority (A) is listed as the first direction. It is the movement of the Atlas forward causing a space between the Odontoid process of Axis and the Anterior arch of Atlas. The Atlas can not move posterior without carrying the Axis with it, or breaking the Odontoid process; thus there are no posterior listings of Atlas subluxations. The amount of Anteriority is determined by a lateral spinograph and assumed in palpation. (See Figure 5) Anteriority is assumed in palpation because there is no posterior movement of Atlas and further if there is a subluxation of Atlas, anteriority must be present in some degree, as previously explained.

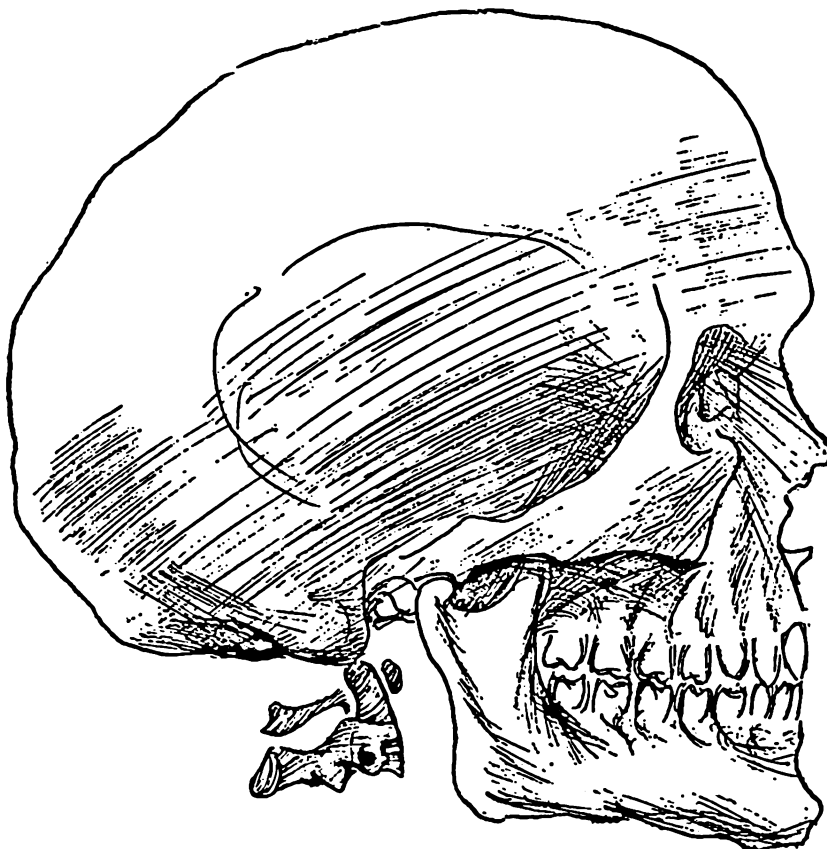


Figure 5
(Remier's "Modern X-Ray Practice and Chiropractic Spinography")

ANTERIORITY

Note the space between the odontoid process of Axis and the Anterior portion of the Atlas. This direction of Atlas movement is known as Anteriority (A). Pressure upon cord itself is thus incurred by reducing amount of space within spinal canal.

SUPERIORITY AND INFERIORITY

Superiority (S) or Inferiorty (I) is listed second. Either is determined by the lateral view. (See Fig. 6) It means that the Atlas segment is so tipped that the anterior arch is pointed upward and the posterior arch is downward in respect to a base line drawn through the occiput and in comparison to the Axis. (See Fig. 7) To fully comprehend these directions, a study of spinographs should be made.

The direction of Superiority or Inferiorty as implied above cannot be discovered by palpation, but since superiority of the Atlas exists in approximately 90 per cent of all cases spinographed, this difficulty is overcome by assuming Superiority to be present whenever one does not have recourse to X-ray films.

Observing this Superior or Inferior motion of Atlas from a lateral

view of a model or specimen, the observer will see that it is a "rocking motion" due to the shape and contour of the occipital condyles which fit into the concavity of the superior articular processes of Atlas. However, remember that this motion does not occur in a subluxation without Anteriority and Laterality also being present.

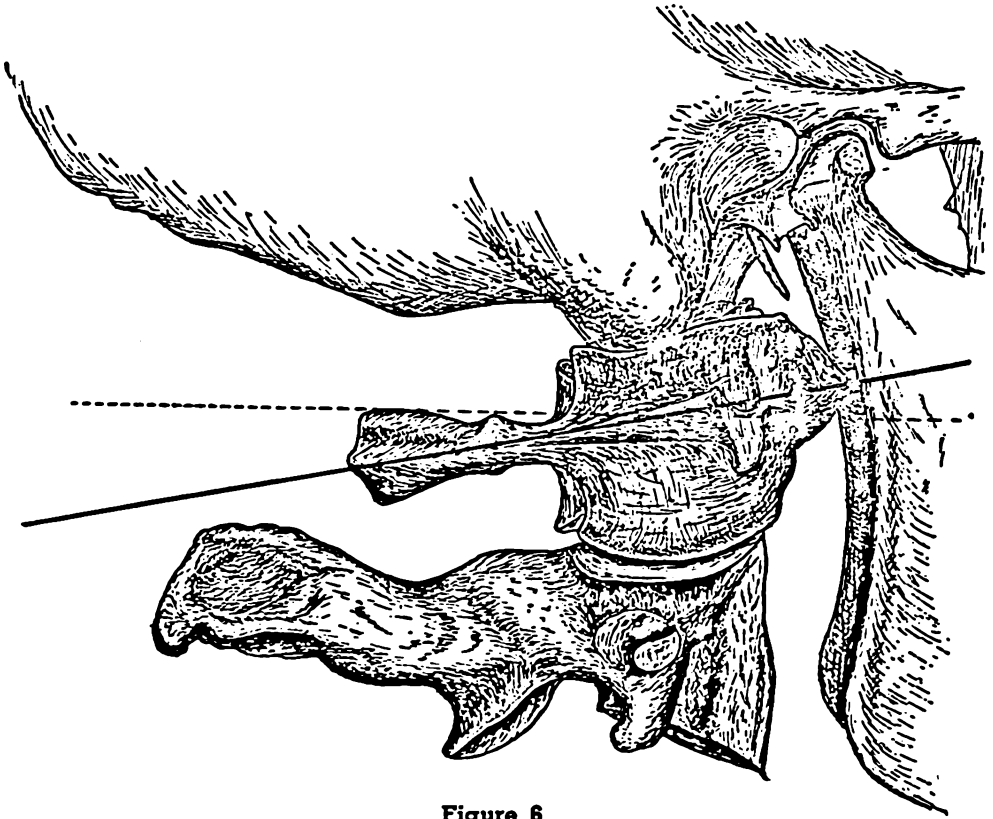


Figure 6

(Remier's "Modern X-Ray Practice and Chiropractic Spinography")

SUPERIORITY

Seen from the lateral view, the Atlas has rocked upon the condyles of the occiput in such a manner to cause the anterior arch to move upward and the posterior arch downward. The dotted line indicates the normal position of an Atlas while the heavy black line drawn thru the anterior and posterior tubercles proves a tilt of the Atlas, upward at the anterior region. This direction is called Superiority (S). When the opposite condition appears, that is when the heavy black line drawn through the anterior and posterior tubercles points downward at the anterior, the condition is known as Inferiority (I).

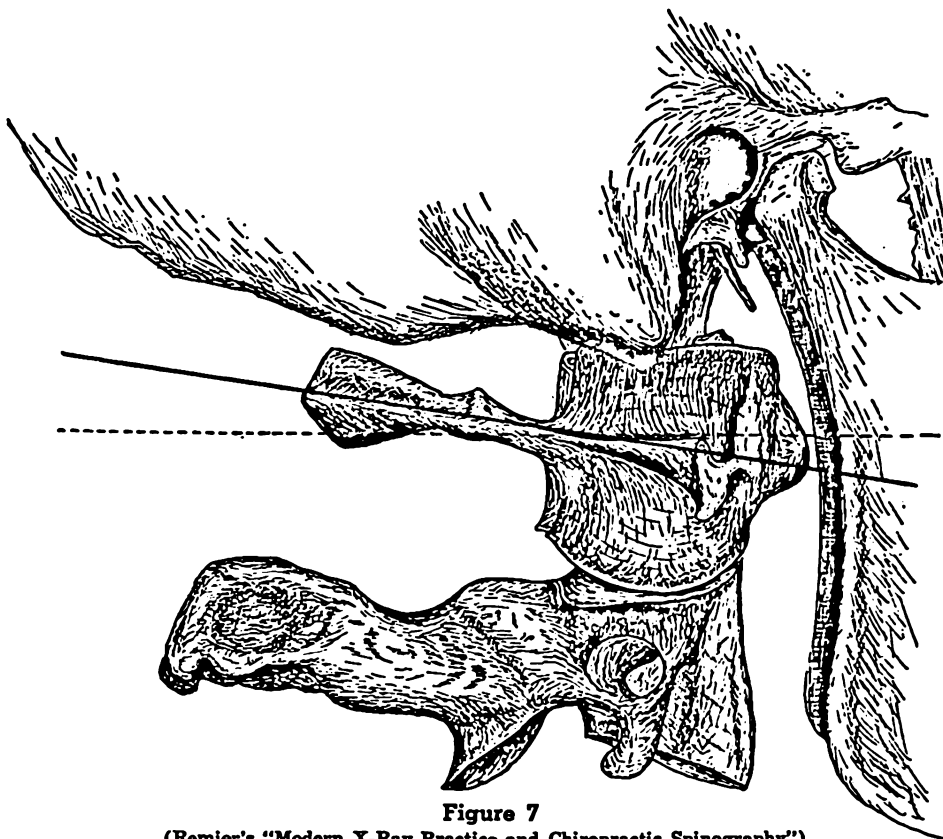


Figure 7

(Remier's "Modern X-Ray Practice and Chiropractic Spinography")

INFERIORITY

This cut illustrates the condition known as Inferiorty (I). In this case the heavy black line points downward. By comparing this cut with Figure 6 a clear understanding of both Superior and Inferior Atlases is immediately available. It can be seen that Superiority or Inferiorty is determined by the relative position of the Anterior Arch of Atlas.

SIDE-SLIP, WEDGE OR LATERALITY

Right (R) or Left (L) is next listed. This refers to the sideway movement of Atlas described as a side-slip. Again due to the peculiar structure of the articulation between Atlas and Occiput the side-slip occurs in such a manner as to cause the Atlas to move upward on the side toward which it slips, unless there is malformation. The transverse on this side moves closer to the mastoid process and the opposite transverse is farther away from its fellow mastoid. The illustration clearly shows the type of movement causing this change. (See Fig. 8 and 9) A line drawn through the jugular process of occiput which is the base line of the skull, and one drawn from the external inferior edges of the inferior articulating processes creates a wedge, the closed side of which is on the side of side-slip.

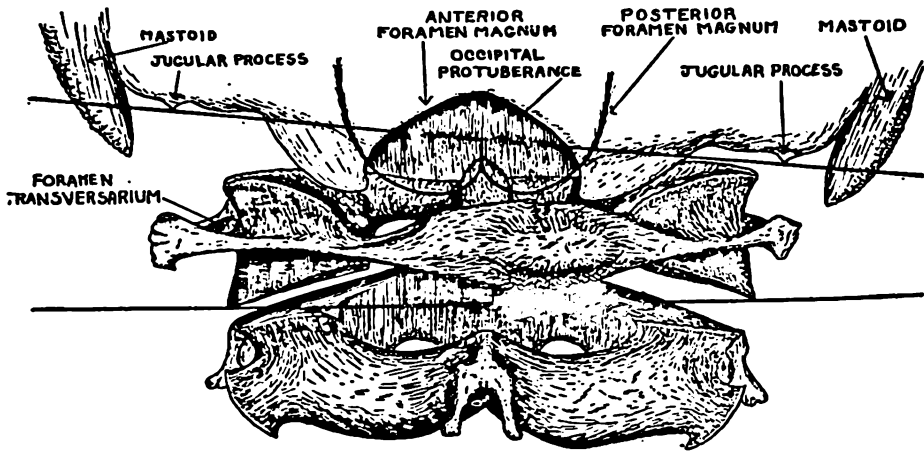


Figure 8

(Remier's "Modern X-Ray Practice and Chiropractic Spinography")

LATERALITY OR SIDE-SLIP

The wedge lines in Figure 8 indicate a right point wedge, which is to say the Atlas has slipped or moved to the right side of the median line. Note that the Atlas has slipped toward the right side, moving upward on the right side and downward on the left side. Compare the distance between the right transverse and the right mastoid process with the distance between the left transverse process and the left mastoid. It will be found that in a right side slip if anomalies or malformations are absent (as in this case) the right transverse will be closer to its fellow mastoid than the left transverse. The above condition is referred to as a right side-slip or simply as Laterality Right.

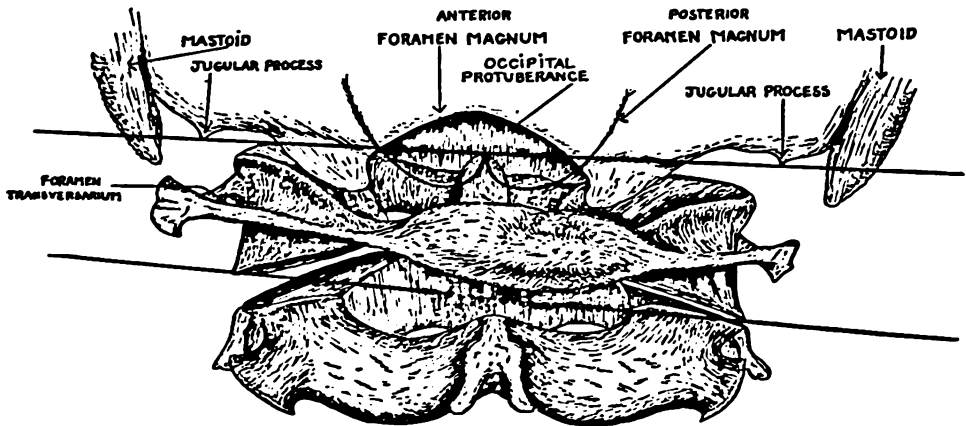


Figure 9

(Remier's "Modern X-Ray Practice and Chiropractic Spinography")

LEFT SIDE-SLIP

The wedge lines drawn in figure 9 demonstrate a left side-slip. Note the manner in which the superior articulating processes of the Atlas move along the condyles of the Occiput, to force the Atlas to move upward on the side of laterality. Compare the distances between the transverse processes and the mastoid processes.

Because the Atlas does not have any bony locks (zygoptheses) it is the only vertebra capable of this sideway motion.

There are naturally exceptions to this rule, but knowledge of malformations or anomalies will correct the interpretation of the wedge line. The side toward which the Atlas slips is also called the "side of wedge", so called because the lines drawn on the spinograph film converge toward the side of side-slip.

In listing by palpation, the distance of the transverses to their respective mastoid processes is compared. The side on which one transverse is closest is then assumed to be the side of wedge. It must always be said in warning that all directions discovered by palpation must only be considered intelligent guesses, because only the spinograph can reveal the true position and the confusing presence of anomalies or malformations.

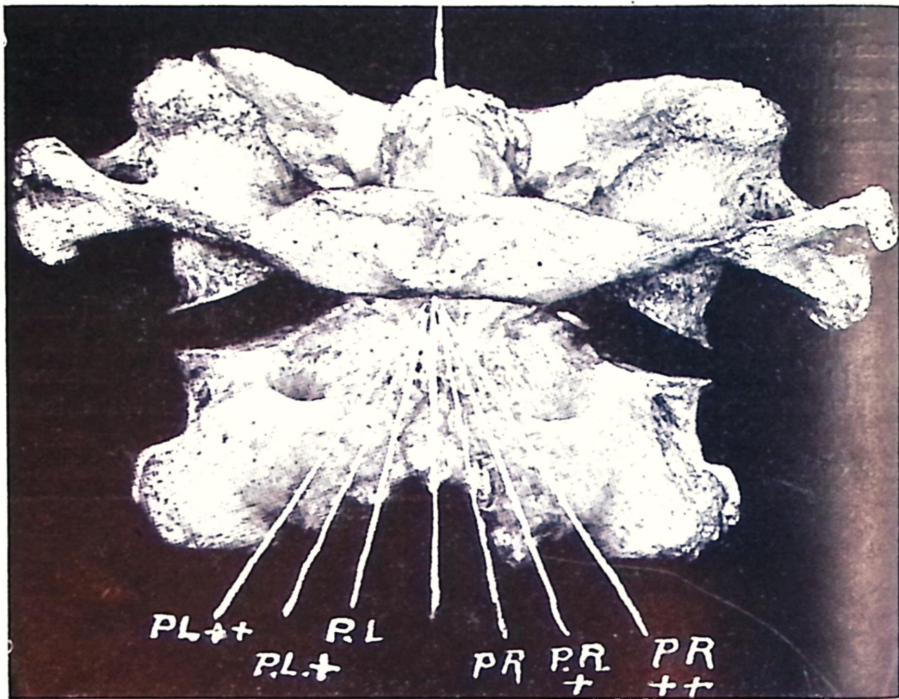


Figure 12—P-A View of Atlas and Axis

AXIS LATERALITY

Axis, for the most part, subluxates around a pivot, the odontoid. For this reason the spinous process is employed as a reference point in listing axis subluxations. In this photograph the radiating white lines demonstrate the point where the spinous process will be found in varying amounts of laterality. In a case of axis PR, the spinous will be found right of the median line of the neck. Combining figures 11 and 12 will provide a picture of either Axis PRI or PLI. Using Axis PLI as an example, the spinous process in that case will be found Posterior, Left, and Inferior of where it normally would be expected.

AXIS LISTINGS

Axis, the second cervical vertebra, is the pivot about which the head rotates. In order to best describe the actual mal-position of axis, the position of the spinous process, the body of Axis, or both, as well as the relationship of these parts to one another is included.

SPINOUS PROCESS LISTINGS OF AXIS (LATERALITY)

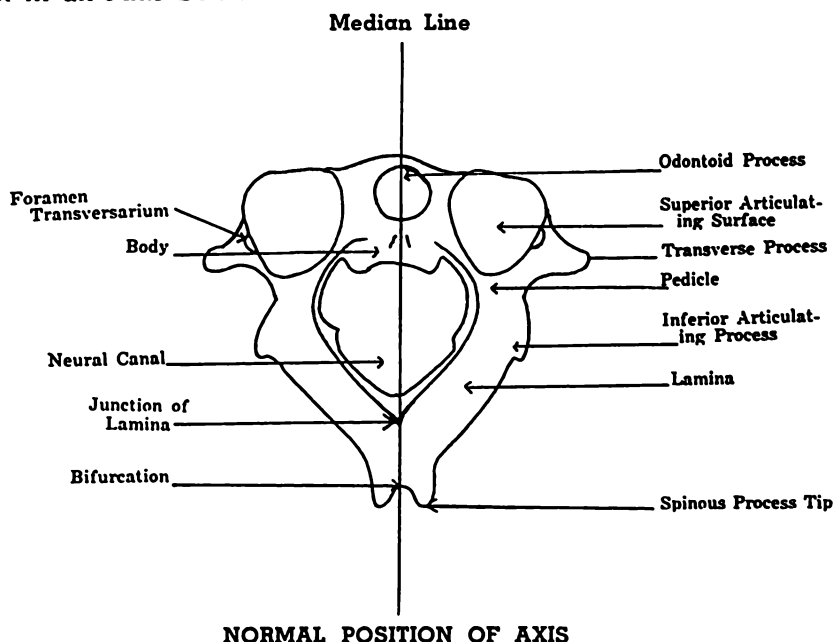
The possible spinous process listings of axis are: P, PI, PR, PL, PRI and PLI. Although P and PI may occur, the directions of these are usually not sufficiently great to create a pressure upon the spinal cord or nerves. Superiority is also missing from this group, for the reason that within the confines of a subluxation, Axis spinous cannot move toward the superior without forcing the Odontoid Process against the

Anterior Arch of Atlas. If as in an accident the Spinous process of Axis is driven upward, either the Odontoid will fracture, the Anterior Arch of Atlas will fracture (unlikely) or the Atlas will be forced into a direction of Inferiority. Conversely, consider the effect of an adjustment designed to drive the spinous of Axis toward the Inferior. If Atlas and Axis specimens are used for this demonstration it can be easily seen that this inferior line of drive would force the Odontoid Process into the space occupied by the spinal cord, creating pressure upon the cord at that point. Spinographic analysis will reveal that the Odontoid does move toward the posterior with a tilt backward, in which case the spinous process is found to be Posterior and Inferior (PI) See Fig. 11.

In accordance with the rules of spinous listings, whenever the spinous process of Axis is right or left of the median line, the listing will be PR or PL. The state of the spinous, being right or left of the median line is called LATERALITY. See Fig. 12.

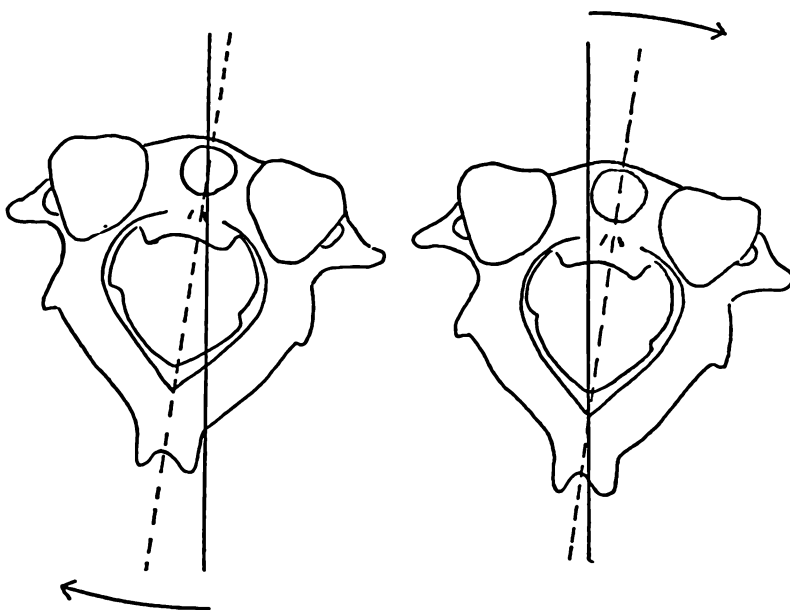
ROTATIONS AND COMBINATION LISTINGS OF AXIS

Consideration of only the spinous process listing is worse than just a one-sided view, it is a dangerous practice. It must be understood that the spinous process is only ONE point of the vertebra and will tell but little about the actual SUBLUXATING position of AXIS. Fig. 12 represents diagrammatically the directions in which an Axis may move to create a subluxation. The following conditions may exist in an Axis Subluxation.



1. The Spinous may be right or left of median line but body of Axis is in the median line.

Case "A": The spinous is (PR), the body is then in median line. This listing is referred to as a body-pivot because the Axis has moved in such a manner to allow the spinous to turn toward the right while the body odontoid remains stationary. Obviously, the body is then the "pivot" for such a movement. This is called laterality.



CASE "A"

Spinous Listing: Left Axis
Body Pivot

The arrow indicates direction of Spinous Process movement.

CASE "B"

Body: Rotated right
Spinous Pivot

The arrow indicates direction of body movement.

2. The spinous may be in the median line but the body of Axis may rotate either right or left of the median line.

Case "B": In this case, the spinous is in the median line but the body has rotated right. This movement of the body of Axis is termed "Axis Rotation". This condition is just the opposite of Case "A" and is a spinous pivot because the pivot for rotation is at the spinous process.

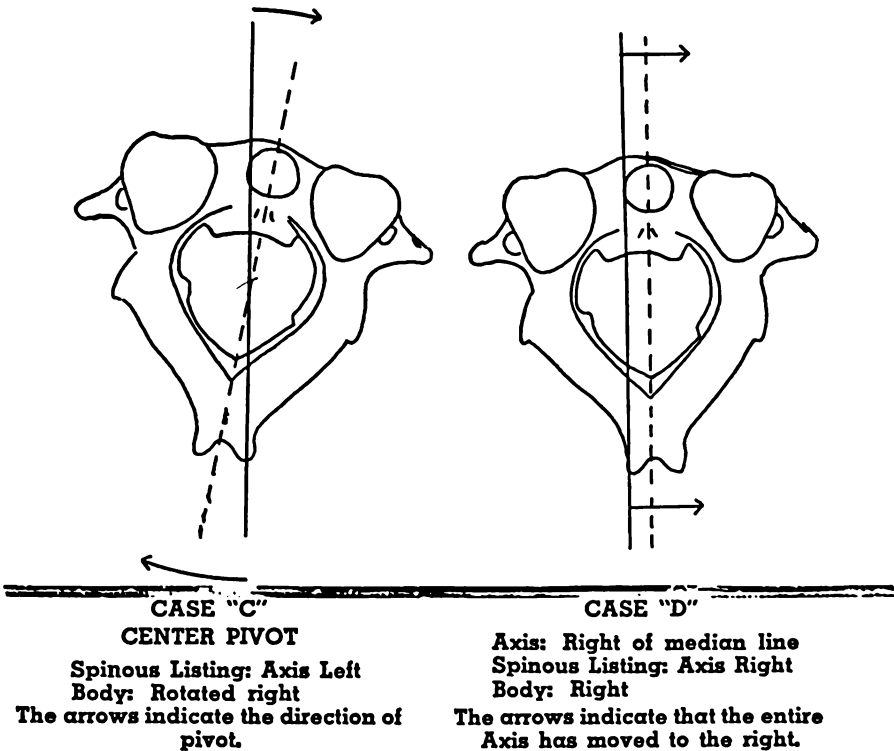
3. The spinous may be on either side of the median line while the body of axis has rotated to the opposite side.

Case "C" illustrates this condition in which the spinous is PL and the body has rotated Right. This is a "center Pivot" meaning that the Axis has rotated about a pivot located midway between the spinous and body.

4. The entire structure of Axis has moved either Right or Left of the median line.

Case "D" shows that Axis as a unit has moved right of the median line. In listing this condition, it is Entire Axis Right.

5. The entire structure of Axis may move right or left of the median line with the spinous process either right or left of its own body. Case "E" represents an instance in which the body is right of the median line, the spinous is left of its own body but (Note this carefully) the spinous is RIGHT of the median line.



6. The Axis may be part of a scoliosis or rotatory scoliosis which will add Tilt as a further direction to be considered in the line of drive when adjusting the Axis.

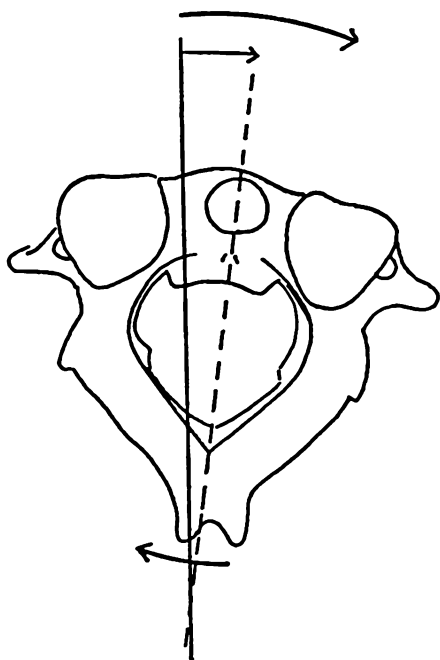
Case "F". In this circumstance, a right scoliosis complicates the listing. The complete listing in this case would be; Spinous Listing: PRI, Body Rotated Left, Tilt: Right High.

Case "F" illustrates the importance of the entire listing, relative to the vertebra above, below or both. A study of Case "F" clearly reveals why a PRI line of drive would (1) increase the laterality of entire Axis and (2) increase the curvature of the cervical region.

CONTACTS

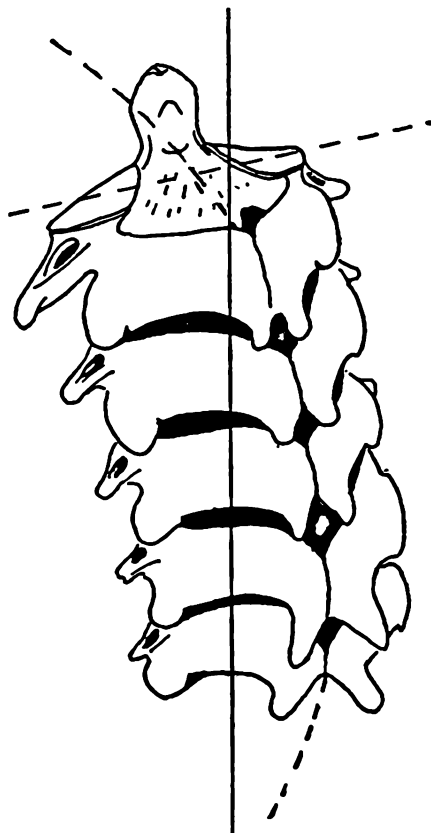
Three types or points of contacts are used in adjusting Axis subluxations. One, is upon either the right or left prong of the spinous contact. The second is the Lamina-Pedicle Contact which is at a point located at the junction of lamina and pedicle. The third is the Lamina-Spinous Contact. The following outline indicates under what conditions these contact points are usually employed.

Contact	Nail Point	Technic	Conditions
Spinous	2 (Sometimes 1)	Side Posture	Case A
Spinous	1 (Sometimes 2)	Knee Posture	Case A
Lamina-Pedicle	1	Side Posture	Case B-C-F
Lamina-Spinous	1 on lamina 2 on spinous	Side Posture	Case D-E
Lamina	1	Side Posture	Case D-E



CASE "E"

Spinous Listing: Axis Left
Body: Right rotation
Complete Listing: Entire
Axis is right of median line but axis
spinous is left of its own body.



CASE "F"

AXIS IN RIGHT SCOLIOSIS

Spinous Listing: Axis PRI
Body: Rotated left
Tilt: Axis right high.

Selection of the proper contact as well as the posture of the patient is determined by the Chiropractor who must be competent in analyzing the mechanical necessity of the case in question.

In adjusting Atlas subluxations the transverse process is ordinarily selected as the contact point. However the transverse process is sometimes recessed preventing both palpation and contacting. In these cases two alternative contact points can be used. One is just posterior to the root of the transverse process against the Lateral Mass of Atlas and the other is upon the Posterior Arch of Atlas. (See Technic Notes)

LINE OF DRIVE

The Line of Drive refers to the direction of adjustic force. The recoil effect plus the line of drive determine the efficacy of an adjustment. When ever possible, spinographic films of the patient should be placed in a view box so that they can be easily seen while the Chiropractor is placing the patient, taking contact and determining the EXACT line of drive.

SIDE POSTURE TECHNIC

If one is familiar with the subluxations of Atlas and well acquainted with the almost inaccessibility of the transverse process of Atlas at times, he will quickly understand the need and advantage of the side posture. There are many cases whose Atlas is impossible to contact if the head is turned to either side. Many of these no one can contact. However, some of these cases are readily contactable when placed on their sides, exposing the transverse in question.

The obvious added advantage of a relaxed cervical region need hardly be mentioned, except to say Innate is given unbounded opportunity to react in the relaxed muscular state. Greater adjusting speed with barely any chance of injury even to a child can be obtained when the cervical region is at rest. The only chance for injury will occur when a contact is improperly taken, the adjustor pounds and pushes, or in those cases in which pathology or a destructive type exists in the upper cervical region. The latter is an extremely rare occurrence. Here, once more, is an example for the necessity of X-rays.

ATLAS—SIDE POSTURE TECHNIC FOR TRANSVERSE PROCESS CONTACT

1. Patient lies on opposite side of laterality, exposing transverse in question.
2. Headpiece serves as a pillow, being lower nearest the patient.
3. Patient's inferior shoulder should NOT touch headpiece.
4. Patient's knees are flexed or straightened, seeking relaxation.

5. Patient's inferior elbow is flexed, and hand is locked over side of the body beneath superior arm.

6. Head and shoulder are firm, with resulting "Floating Neck" flexible cervical region.

7. Patient's superior shoulder is directly above inferior shoulder.

8. Headpiece should be adjusted with one hand, while determining relaxation over the transverse process of Atlas with the pointer finger of the other hand.

9. After complete relaxation of the patient is obtained, stand slightly to inferior on the side to which the patient is faced. The standing position will be determined by the line of drive.

10. Palpate the portion of transverse process in accordance with the listing.

11. Roll in the contact with nail point one, using a very high arch. For ASR or AIR, use nail point one of right hand. For ASL or AIL, use nail point one of left hand.

12. Arm of the hammer hand may be in front of or behind the superior shoulder of patient, depending upon the line of drive to be used. But keep both feet flat on the floor!

13. Torque: For ASR or ASL, torque with nail hand elbow toward you. For AIR or AIL, torque with nail hand elbow away from you.

14. Rotations: Listed according to position of transverse process on side of laterality.

15. Contact for: With the transverse process rotated anterior on the side of laterality, contact is taken on the anterior margin of tip of the transverse and the line of drive is toward the posterior. With the transverse rotated posterior, contact is taken on the posterior margin of the tip of the transverse. The line of drive is given toward the anterior. This anterior line of drive may be obtained by leaning well over the patient, or better, by standing on the opposite side of the patient, using the same nail point for contact.

16. Allow patient to remain resting for at least 5 minutes.

ATLAS POSTERIOR ARCH CONTACT

From time to time, certain cases appear whose Atlas Transverse Processes are impossible to palpate or contact. This may be due to very short or bent transverse processes, a low overhanging occiput, unusually large mastoid processes or a combination of any or all of these anomalies. To circumvent this difficulty, a posterior arch contact is the alternative.

Two arch contacts are possible, the selection of which will in a large measure depend upon the adjusting posture employed. The first

and most desirable posterior arch contact is the point where the posterior root of the transverse process joins the posterior arch of Atlas. The technic of this adjustment is much the same as for the transverse process contact except it is of major importance to the adjustor to recognize that by shifting the contact to the posterior he is not as close to the "gravity center" of Atlas and the intended line of drive must consider this change. The recommended posture for this contact is the side-Posture although the prone or kneeling posture may be used.

The second arch contact, is recommended only when the Side Posture position cannot be used, and conversely should not be used in the Side-Posture position. The point of contact is approximately mid-way between the posterior tubercle and the transverse process.

**ATLAS
SIDE POSTURE TECHNIC
FOR POSTERIOR ARCH CONTACT
FOR LISTINGS: ASR-A and ASL-A**

1. Place patient on side posture table with side of listing up.
2. Using lateral Spinographs as a guide, locate the posterior arch and select a point as close to the posterior root of the transverse as possible, and slightly to the inferior. If Spinographs are not available palpate for the transverse process and follow to the posterior to the junction of the posterior root with the posterior arch.
3. Create a fossa in the tissue with the palpating finger and roll in nail point one with nail point two following around the inferior aspect of the arch.
4. Line of drive is from slightly inferior and anterior to gravity center established through the transverse process.
5. Torque with nail arm to you and hammer arm away.

FOR LISTINGS: ATLAS AIR-A and AIL-A

The only difference in the procedure here from the ASR-A and ASL-A procedure are the points of contact and the torque.

1. Place the patient on the side posture table with side up according to listing.
2. Using the lateral spinographs as a guide locate the posterior arch and select a point as close to the posterior root of the transverse process as possible and slightly to the superior (without spinographs palpate transverse process and follow to posterior root at its junction with the posterior arch).
3. Create a fossa with palpating finger and roll in nail point one with nail point two following around superior aspect of arch.
4. Line of drive is from anterior and superior to line of gravity established through the transverse process.

5. Torque with nail arm away from you and hammer arm to you.
For Posterior Rotations proceed the same as for anterior rotations except for line of drive.

FOR LISTINGS: ATLAS ASR-P and ASL-P

Line of drive from posterior and slightly inferior to gravity center established through the transverse.

FOR LISTINGS: ATLAS AIR-P and AIL-P

Line of drive from posterior and superior to gravity center established through the transverse process.

ATLAS

KNEE POSTURE OR PRONE (HYLO TABLE)

POSTURE TECHNIC FOR POSTERIOR ARCH CONTACT

1. Stand on either side of the patient.
2. Turn patient's face to side of laterality, then seek to adjust the head-piece to point obtaining greatest relaxation of the patient's cervical region.
3. With the Chiropractic Index Finger of the inferior hand, palpate the bifurcation of axis spinous. Hold this point. With the Chiropractic Index Finger of the superior hand, palpate the transverse process of the Atlas. Hold this point. With the forefinger of the inferior hand, measure up two thirds of the distance towards the transverse process of atlas and then palpate for the median horizontal line of the posterior arch.
4. If the listing of Atlas is superior, measure down about $\frac{1}{4}$ " to the inferior rim of the posterior arch. This is the contact point for superior listings.
5. If the Atlas is inferior, measure up $\frac{1}{4}$ " to the superior rim of posterior arch. This is the contact point for inferior listings.
6. Stand to the inferior in all cases, up close to patient.
7. Nail Point Two is used to contact the arch.
8. For listings with Inferiority: the hand should contact at about a 45° angle to the arch. Nail Point One will be above the arch.
For listings with Superiority, contact with the hand about parallel to the arch.
9. For Superior listings stand so that episternal notch is inferior to the contact point.
For Inferior listings stand so that episternal notch is superior to the contact point. (Leaning toward patient's head).
10. For listing with Anterior Rotation:
ASR Right Transverse Anterior
ASL Left Transverse Anterior

AIR Right Transverse Anterior

AIL Left Transverse Anterior

Drive: Out of side-slip.

Torque: Nail Hand elbow away from you. (See Note 1)

For listings with Posterior Rotation:

ASR Right Transverse Posterior

ASL Left Transverse Posterior

AIR Right Transverse Posterior

AIL Left Transverse Posterior

Drive: Out of side-slip

Torque: Nail Hand elbow toward you. (See Note 1)

Note 1. The torque in the posterior arch contact is used to correct *Rotation*, not *Superiority* or *Inferiority*. By torquing and correcting rotation, the anterior arch is rotated back into position with odontoid process of axis thus preventing Anteriority of Atlas to develop.

AXIS

SIDE POSTURE TECHNIC FOR SPINOUS PROCESS CONTACT

1. Patient lies on the opposite side to laterality.
2. Patient is placed in the same manner as for Atlas adjusting.
3. Relaxation through Atlas and Axis region is determined by lowering and raising the headpiece.
4. After complete relaxation is obtained the standing position is assumed in most cases on the opposite side to the patient's face. This allows a more diagonal line of drive without shoving the patient's head.
5. For PR or PRI contact with the right hand. For PL or PLI contact with the left hand.
6. Stand behind the patient and to the inferior.
7. Locate the posterior inferior portion of the spinous in question. With the pointer finger, begin lateral to this point and roll the tissue down and to the contact point.
8. Roll in nail point two so that it falls upon the previously selected portion of the spinous.
9. The line of drive is now given in accordance with the listing. The drive should be so directed that the patient's head will not be pushed sideways, nor the contacting hand slip from the contact point.
10. For inferior listings (PRI or PLI), the torque is given toward the median line with nail hand elbow toward you.
11. Allow the patient to remain in this position for at least five minutes.

AXIS
KNEE POSTURE OR PRONE TECHNIC FOR
SPINOUS PROCESS CONTACT

1. (A) For knee posture position place the patient on the table so that the knees are slightly flexed and that an angle of the headpiece will produce the greatest amount of relaxation even though the head is turned. Be sure shoulders are anchored solidly. (B) Upon the Hylo table the patient lies prone but the headpiece must be arranged to relax the patient's neck. See that the shoulders are firmly anchored upon the shoulder piece.
2. Stand on either side of the patient.
3. Turn patient's face to side of laterality.
4. Palpate with little finger leading down the spine; supporting the patient's forehead with other.
5. Locate posterior inferior tip of a spinous process of Axis. This is point of contact.
6. Do not change pointer fingers.
7. Assume standing position to inferior up close to the patient.
8. Raise pointer finger. With same, go to median line of neck, slightly to inferior. Draw tissue to point selected. Raise all fingers but Chiropractic index finger.
9. For PRI, roll in nail point one of right hand. For PLI, roll in nail point one of left hand.
10. Line of drive is toward median line, toward anterior, and toward superior.
11. Torque toward the median line with elbow of nail hand toward you.

AXIS
SIDE POSTURE TECHNIC FOR
LAMINA—PEDICLE CONTACT

1. Patient is placed to expose whatever side of Axis is to be contacted. Example: For Right Rotation, patient lies on the left side exposing the right side of Axis.
2. Patient's cervical region is relaxed by lowering and raising the head piece.
3. Stand either in front of or behind the patient but find the most comfortable standing position for the adjustment. Because of the line of drive, the adjustor will be standing to the inferior.
4. Locate the point where the lamina joins the pedicle. This is the contact point.
5. For Right listings contact with the Nail Point One of right hand and for Left listing contact with Nail Point One of the left hand.
6. The line of drive is now given in accordance with the listing.
7. Allow the patient to remain resting for at least five minutes.

AXIS SIDE POSTURE TECHNIC FOR LAMINA-SPINOUS CONTACT

In this technic, Nail Point One contacts the lamina of Axis while Nail Point Two of the same hand contacts the spinous process tip. The Lamina-Spinous technic is used to drive both the body of axis and the spinous back toward the median line. Placement of the patient is the same as for the other side-posture technics.

A REMINDER ON TORQUE

Torque means a rotary motion of nail point during the adjustic move in which nail point revolves on the point of contact. A scooping motion is neither effective nor specific. The entire toggle system of the arms rotates about the point of contact. When one torques with "nail hand toward you" at the same time hammer hand "moves away from you."

SPECIFIC CHIROPRACTIC

Specific Chiropractic is that art of discovering the exact point of interference to transmission of mental impulses, determining the exact nature of the subluxation, and delivering an exact adjustic force which arouses the Innate recoil to make a specific adjustment of the subluxating vertebra allowing the free unimpeded flow of mental impulses to restore a dis-eased body to health.

To qualify as a specific chiropractor, a chiropractor must know then, where to adjust, when to adjust and how to adjust. He must possess the proper instruments, judgment and reason to reach the proper conclusions and further he must develop and maintain the highest degree of adjusting art.

NEUROCALOMETER

In order to know when to adjust the Chiropractor must know when *nerve pressure* exists and when it does not. The Neurocalometer, a comparative heat measuring instrument, properly employed and understood is capable of detecting the minute amount of heat developed by nerves under pressure. The specific chiropractor does not depend upon a patient's complaints to dictate the presence of pressure but relies upon the logical principle of the Neurocalometer. The Neurocalometer and the Chiropractor are subject to variables in the scientific equation therefore to reduce the variables to a minimum the Neurocalograph in a shielded and grounded booth used with the Neurotempometer records the reading automatically permanently and accurately. The grounded and shielded booth eliminates the effect of magnetic waves, cosmic rays, radio waves, or any other known electrical or magnetic influences from the reading. The Neurotempometer provides a constant rate of speed

in making the reading so that the temperament of the Chiropractor need not be read into the final analysis but from day to day and from year to year, a constant rate of glide will exist. These are then, the present ideal tools for determining when to adjust. (See NCM Manual)

SPINOGRAPHS

The use of the X-ray is mandatory in the practice of specific Chiropractic. Day by day it becomes more evident that anomalies and malformations place the palpator in the embarrassing position of a chiropractor guesser. Spinographic interpretation has made huge advances during the last few years but even then is obvious that we are just beginning to understand this science. The variables are being reduced and constants are taking their place so that specific listings of vertebrae can be made and then adjusted. (See Remier's "Modern X-ray Practice and Chiropractic Spinography")

Specific Chiropractic is a goal. As each grain of fact is absorbed into the composite structure of our Chiropractic knowledge, as that knowledge grows in length, breadth, depth and time, so the infinite dimensions of our goal come closer to being fulfilled.

